The MODERN HOSPITAL

Vol V. *November, 1915* No. 5

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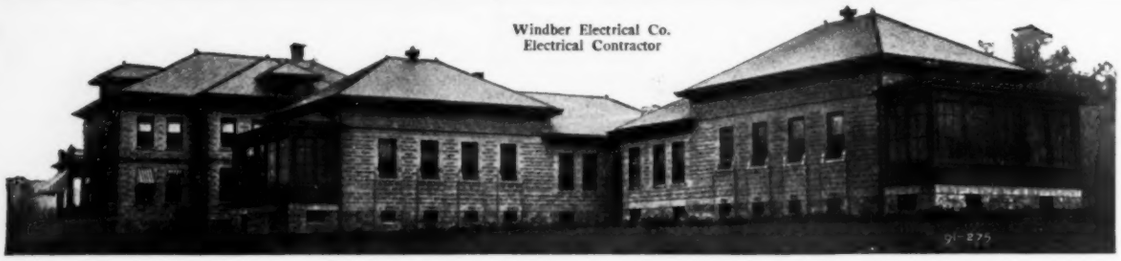

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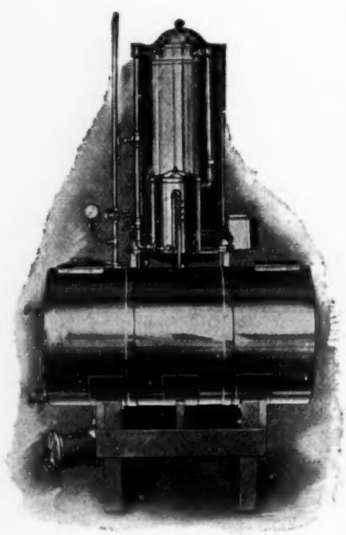

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

Vol. V *November, 1915* No. 5

NEW SAN FRANCISCO HOSPITAL IS FINEST OF ITS KIND

Group of Ten Buildings, Costing Three and One-Half Millions, With One Thousand Beds, Is Architecturally Beautiful, and Sounds Last Word in Economical and Efficient Administration

By DR. R. G. BRODRICK, Superintendent

THE new San Francisco Hospital is maintained by the city and county for the treatment of its sick poor. It is under the control of the Department of Public Health, which consists of a commission of seven members, four of whom are laymen and three physicians.

With the completion of the new general hospital, at an approximate cost of three and one-half million dollars, derived from the sale of bonds, San Francisco will have one of the finest and handsomest institutions of its kind in the United States. The hospital, when completed, will accommodate about 1,000 patients; hence the cost per bed amounts to about $3,500.

The late Mr. Newton J. Tharp designed the buildings and chose for the location of the main group the frontage facing Potrero Avenue, a broad avenue on which is operated the municipal car line.

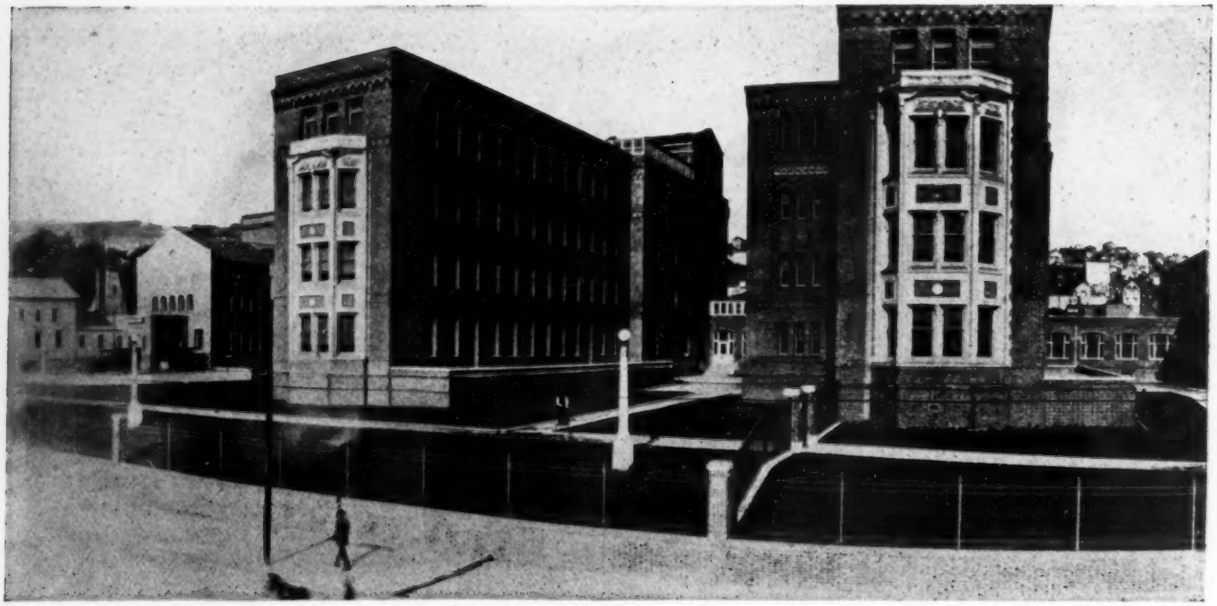
The hospital is located in what is known as the "Warm Belt" of the Mission, at the edge of the most thickly populated district of the city; it is situated on a rising elevation and covers four city blocks, 866 feet long and 760 feet wide. The tuberculosis and infectious groups will be situated on higher ground on the easterly portion of the property.

The buildings are so arranged that there is ample light and plenty of ventilation around each particular unit. In general, the type of construction is what is known as the corridor-pavilion, the buildings being connected by a main corridor in such manner that one can go from building to building without exposure to the elements.

The Italian renaissance style of architecture has been followed in designing the buildings, which are of the finest Class "A" fireproof construction possible for human skill to produce. The foundations are of concrete, waterproof and under-drained. The floor and roof construction is of reinforced concrete. The flooring throughout the offices and bedrooms in the administration building and in the nurses' home is of maple; in the wards and in the bedrooms of the service building the floors are covered with battleship linoleum cemented to the concrete. The operating rooms, treatment rooms, toilets, laboratories, etc., are finished with tile, and the floors of all corridors are of terrazzo. The exterior walls are of brick of rich color, laid in a very beautiful way, with terra-cotta trim.

The grounds are extensive and present a park-like appearance, having been laid out by Mr. John McLaren, the well-known designer of the beautiful gardens of the Panama-Pacific International Exposition, the entire area being enclosed by an iron grill fence and lighted at night by about forty ornamental electroliers.

The interior finish has been given careful study. All angles are rounded; baseboards are finished with sanitary cove; window sills generally are of marble; all door and window frames are of wood; the doors are smooth and flush, without panels, and are painted with five coats of cream enamel paint, except in the administration building and



Receiving building. Ward building. Ward building.

Fig. 1. San Francisco Hospital, San Francisco, Cal. Panoramic view of main group.

in the nurses' home, where the doors are of quartered oak, natural finish; the plastering is of Keene's cement throughout and is covered with three coats of paint of a light buff color. The plumbing fixtures, of which there are over one thousand, are of vitreous ware; all pipes are placed in vertical pipe racks in such a manner as to be within easy reach when necessary.

Plate glass has been used in all windows, with the exception of a portion of the service building, power plant and laundry, where the panes are of sheet glass. All of the windows are covered with bronze screens.

The *main group* consists of ten buildings, begun in 1910 and completed May 1, 1915, when it was officially opened for the reception of patients. It has accommodations for 512 patients and is so constructed that 752 beds may be provided if found necessary. The main entrance is in the center of the Potrero Avenue frontage and persons entering or leaving the grounds are compelled to pass the gate house. The approach from the main entrance to the administration building is impressive, consisting of a series of terraces and stone stairways, on either side of which are lawns and flower beds. Provision is also made for ornamental fountains.

The *administration building*, the central feature of the main group, is three stories high and provides accommodations for the general offices of the superintendent and his assistants on the first floor. In the main office is located the central telephone exchange, and switchboard for signal service; provision is also made for fire alarm station at this location. By means of a signal board, operated in conjunction with the silent call system, the telephone operator records on a time stamp the time when the patient's call is registered, and the time it is answered by the nurse. At the northerly end of the administration building, on

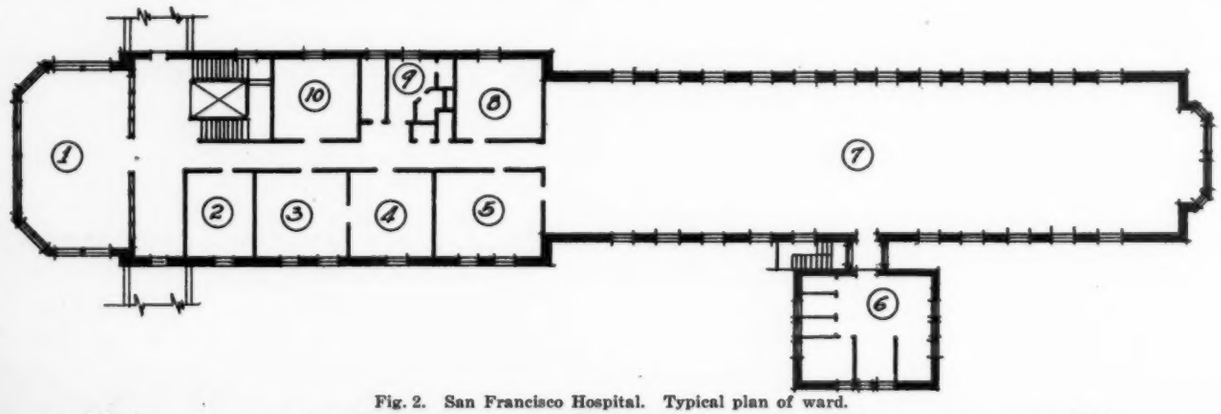
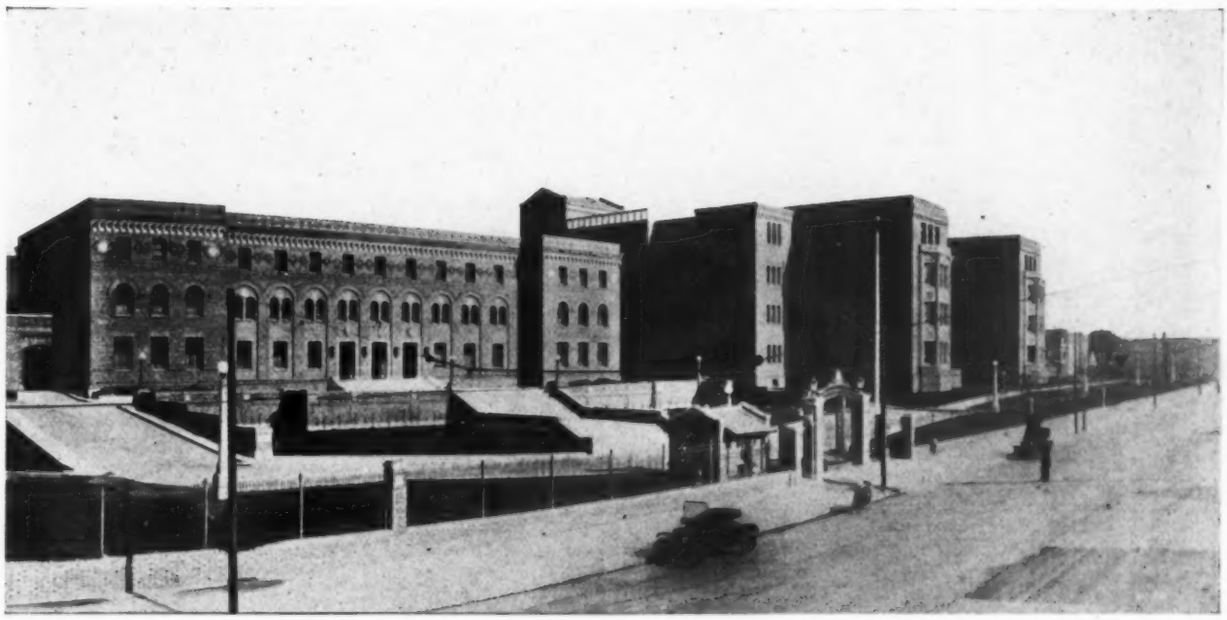


Fig. 2. San Francisco Hospital. Typical plan of ward.

1. Solarium.
2. Laboratory.
3. Dining room.
4. Diet kitchen.
5. Dressing room.
6. Toilet.
7. Ward.
8. Two-bed ward.
9. Toilet.
10. Two-bed ward.



Main corridor. Administration building. Ward buildings and service building.

the first floor, is a large room which is used by the visiting staff and which will also be available as a meeting place for the advisory council, committees interested in social welfare work, etc.

The two upper floors are devoted to the use of the house officers and interns. They contain recreation and general reception rooms, library and billiard room, with a liberal provision of shower baths, toilets and other conveniences. In the basement are storerooms for the storing of trunks, furniture, enamelware, electrical stores, etc., and a large fireproof vault for the safekeeping of records. A portion of this building is set aside for the accommodation of the superintendent.

The main *ward buildings*, of which there are four, are six stories high. Two are located to the north and two to the south of the administration building. Each ward building contains four wards, a roof garden with penthouse and a basement. There is provision in each ward for twenty-nine beds, there being twenty-five beds in the general ward, which is 110 feet long and 26 feet wide, and two beds in each of the two preparation wards, with a cubic air space of 1,500 feet for each patient. A special feature of the ward buildings is the sanitary tower, placed on the north side of the buildings, opposite the middle of the ward. This tower contains the toilets, baths, wash basins, utility station, clothes chute, blanket warmer, etc. It is connected with the ward by a narrow corridor in such manner as to permit of cross-ventilation between the two structures. The wards have a full southern exposure and are well ventilated by hopper transoms placed above the windows.

Each bed is placed between two windows and is furnished with a reading lamp, silent call system and an electric socket for examination lamp. Each ward is furnished with a treatment room, diet kitchen, ward dining room, laboratory, linen room, toilet, wash room and janitor's closet. At

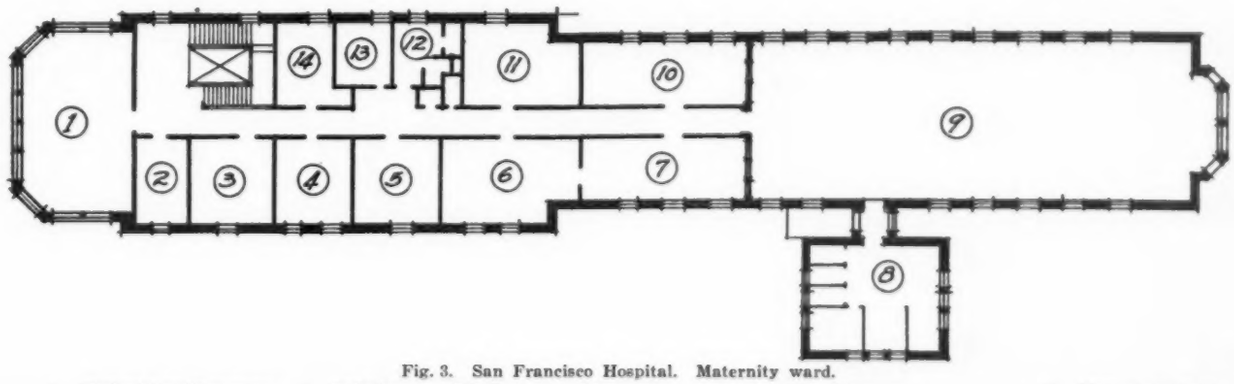


Fig. 3. San Francisco Hospital. Maternity ward.

1. Patients' waiting room.
2. Doctors' dressing room.
3. Isolation room No. 1.
4. Isolation room No. 2.
5. Diet kitchen.
6. Delivery room.
7. Nursery.
8. Toilet.
9. Ward.
10. Nursery.
11. First stage room.
12. Toilet.
13. Nurses' supplies.
14. Laboratory.

the easterly end of each ward is a large solarium, the walls being almost entirely of glass. A large terrace on the southerly side of the first floor of the ward buildings permits of the patients being wheeled into the open air and sunshine. Electric passenger elevators, conveniently located, each of which is capable of carrying a bed, are arranged for operation by lever, or by push button control, the change from one system to the other being effected by a throw switch in the elevator machinery room.

The *maternity ward* is provided with accommodation for twenty-five patients, there being beds in the ward proper for twenty patients and rooms for five. Adjacent to the ward are toilet facilities placed in a sanitary tower and nearby are two nurseries; then follow in order the first stage room, delivery room, diet kitchen, dining room, two isolation rooms, doctor's dressing room, laboratory, supply room, toilet and janitor's closet. At the easterly end is a solarium.

The *children's ward* has been divided by glass cubicles, 9 feet high, into four smaller units, each containing six beds, so that to a certain extent contact infection from communicable diseases will be controlled.

The *receiving building*, which faces Twenty-second street, at the northerly end of the main corridor, is five stories high in the main portion, leading from which are three wings each three stories high.

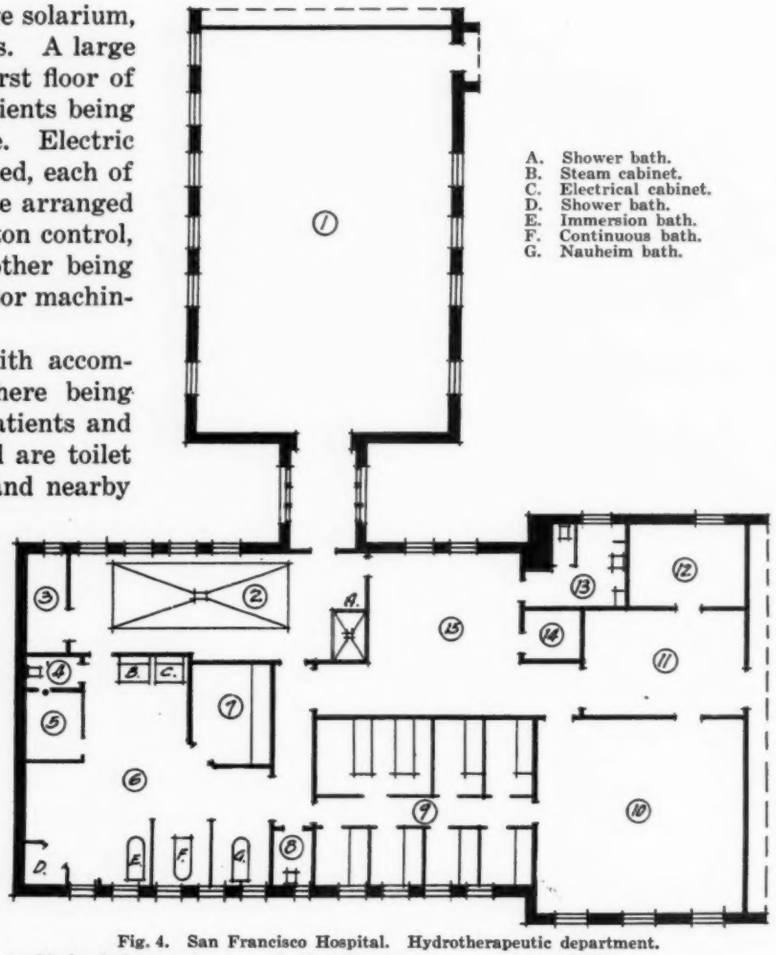


Fig. 4. San Francisco Hospital. Hydrotherapeutic department.

1. Mechanical apparatus.
2. Plunge bath.
3. Pump room.
4. Toilet.
5. Irrigation room.
6. Douche room.
7. Steam room.
8. Toilet.
9. Dressing rooms.
10. Lounge room.
11. Hall.
12. Store room.
13. Toilet.
14. Closet.
15. Office.

This building has been designed for a five-fold purpose:

1. To receive patients entering the hospital proper.
2. For use as an emergency department.
3. For an out-patient department.
4. As a surgical pavilion.
5. For the purpose of instructing students from the medical colleges.

On the main floor is situated the emergency department, consisting of receiving station, operating rooms and wards; an out-patient department, consisting of reception room, treatment rooms, drug room and rooms for social service workers; department for receiving of patients, consisting of reception rooms, examining and treatment rooms, bath rooms, two observation wards and eight isolation rooms. It is probable that a dental clinic will also be established in this location. On the second floor is the surgical pavilion, which contains, besides the operating rooms, two large surgical amphitheaters, each with seating accommodations for fifty students. On this floor is also located the x-ray department, eye, ear, nose and throat, and urological examination rooms. Accommodations are also here provided for the care of patients before and after operation.

On the third floor is an amphitheater with seating accommodations for 200, with laboratories adjacent, used by the faculty of the five medical colleges affiliated with the hospital for demonstrating purposes. On this floor also are the rooms in which the dressing sterilizers are situated; thus excessive humidity on the second or operating floor is avoided. In the basement is situated the hydrotherapeutic department, which is second to none in San Francisco. It is equipped with dressing and lounging rooms; douche, steam and irrigation rooms; plunge and mechanical apparatus department. In the douche room are shower baths, steam cabinet, electric cabinet, cleaning bath, continuous bath, Nauheim bath, massage table, etc.

The ventilation in the receiving building is con-

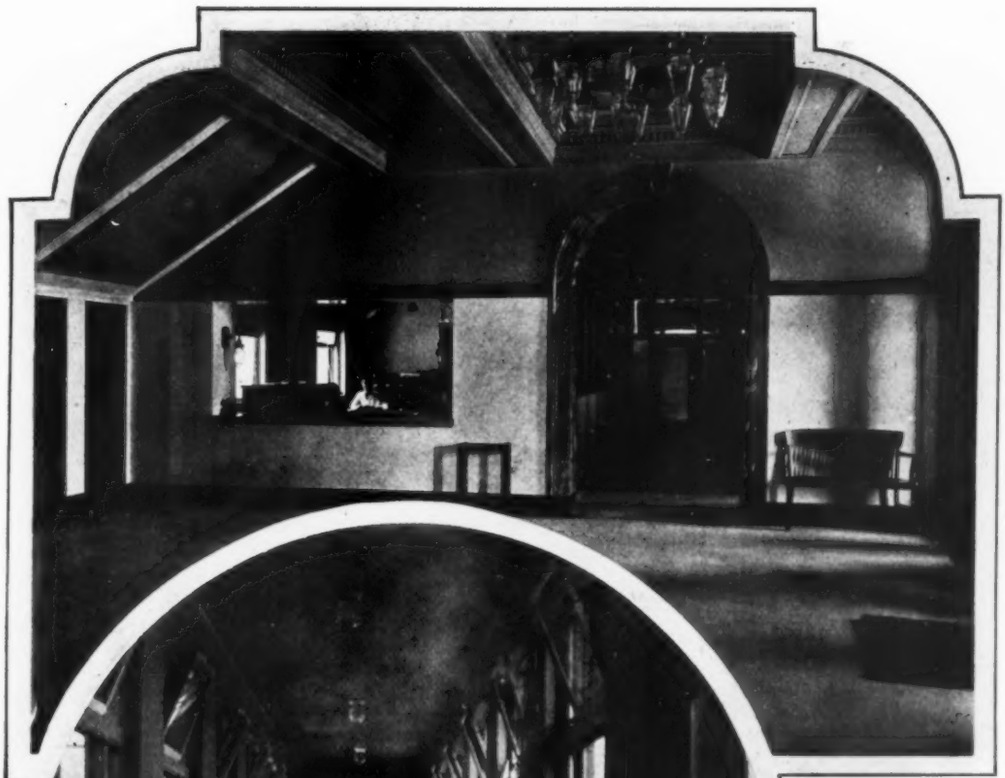


Fig. 5. San Francisco Hospital. Lobby, administration building. The floor is of gray Tennessee marble; wainscoting of white marble, bordered with black Belgian marble; door casings, window casings and archways are of onyx.

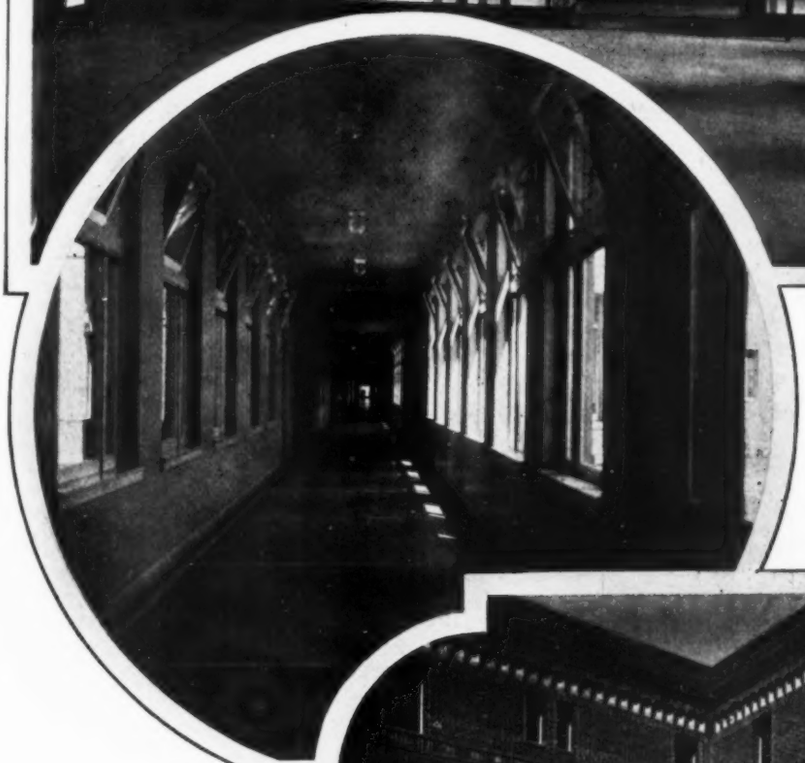


Fig. 6. Main corridor, 789 feet long. Floor is of terrazzo. Note the cross ventilation above.

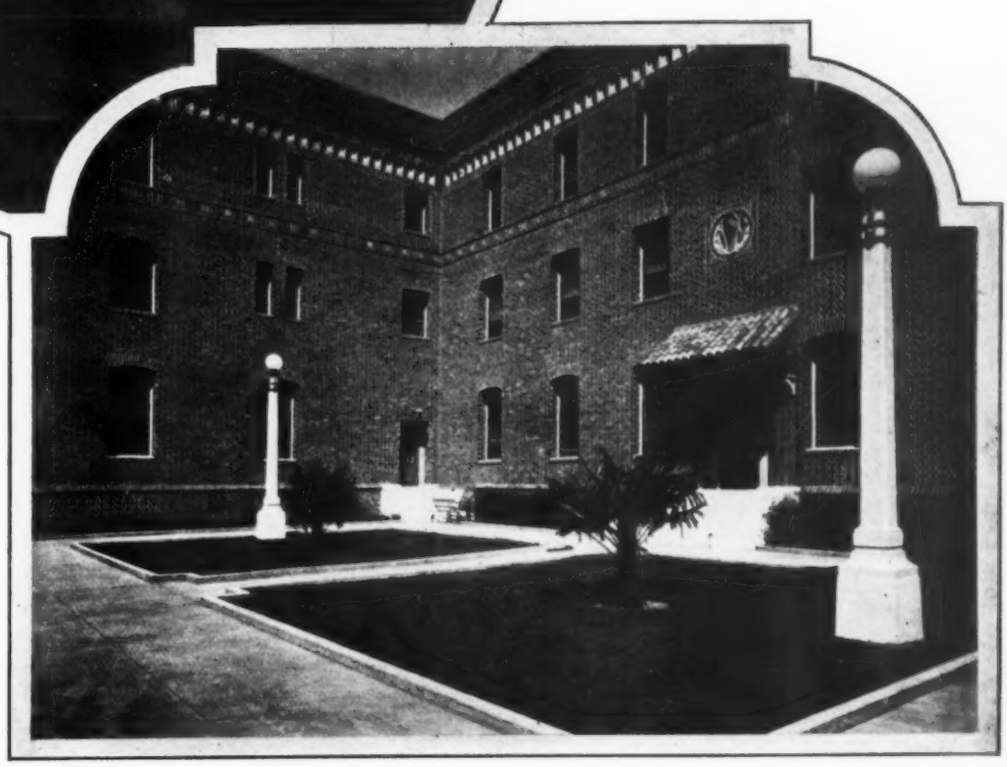


Fig. 7. A view of the nurses' home. There are over forty of these concrete electroliers on the grounds.

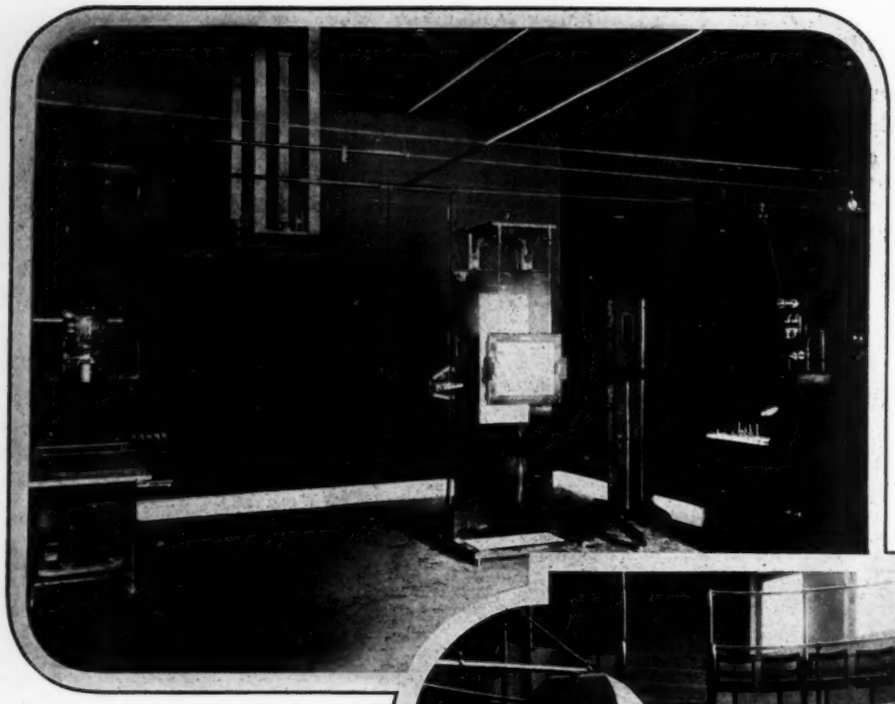


Fig. 8. Section of the x-ray department, showing trochoscopic table, fluoroscope, shield and coil.

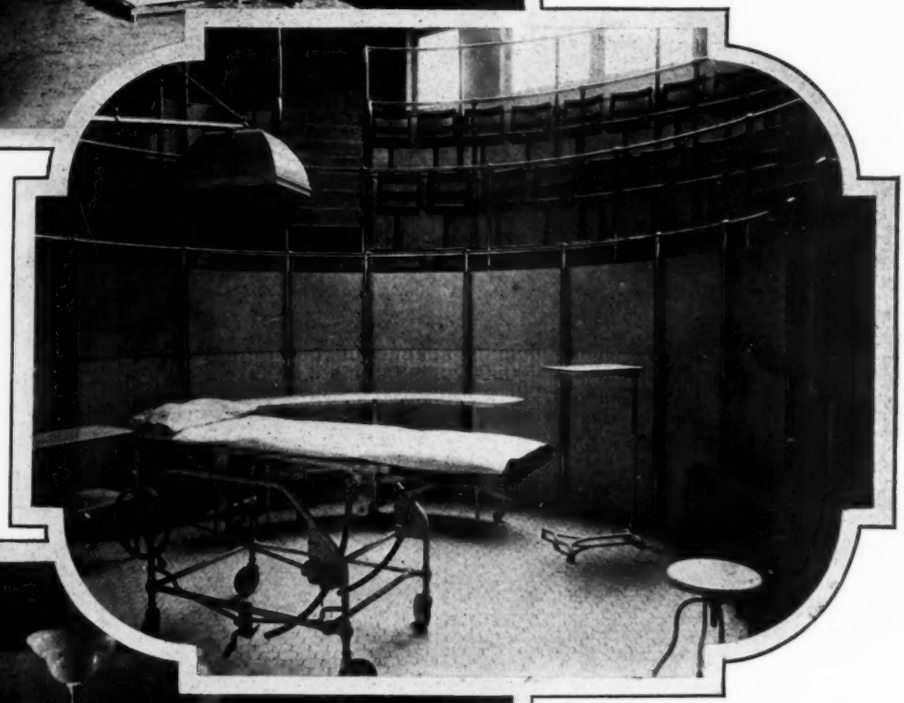


Fig. 9. One of the amphitheaters, surgical department, receiving building.

Fig. 10. A typical ward. Note open hopper transoms, which ventilate without cost; also individual silent call system, reading lamps, double shades, etc.

trolled by a double mechanical system, the plenum system; one for supply and one for exhaust, the air being drawn in through an aperture fifty feet above the ground, washed and distributed by Sturtevant fans, after proper heating, to the various operating rooms. The mechanical exhaust system of ventilation can be operated separately in different parts of the receiving building.

All operating rooms are furnished with running sterile water.

To the east of the receiving building is the *pathological building*, a three-story structure, now in process of construction. On the first floor will be the morgue, post-mortem rooms, rooms for animal experimentation and kennels in connection therewith; also a chapel. On the second floor will be accommodations for the main chemical and bacteriological laboratories, which will be operated in conjunction with the central laboratory of the department of public health.

In the rear of the administration building is the *service building*, in the center of the main group, consequently easy of access from the other buildings. It contains the main kitchen and serving pantry, from which all food is served, for removal in food carriages to the various wards. Secondary serving pantries are between the staff dining room and nurses' dining room and between male and female help dining rooms. The drug and linen rooms are also located on the main floor of this building. The two upper floors are furnished as quarters for the male and female help. Not more than two employees sleep in each room.

In the basement provision is made for a number of general storerooms, mattress and pillow rooms, bakery and a large locker room for the accommodation of patients' clothing.

The *nurses' home* is situated at the extreme southerly end of the main corridor. A garden faces the south, where the nurses may enjoy themselves and be free from view of the ward buildings, as well as the public. A large lecture room, social hall, recreation rooms, library, dining room, kitchen and suites for the superintendent of nurses, assistant superintendent of nurses, etc., are on the first floor. The two upper floors are arranged for the accommodation of 120 pupil nurses. There are not more than two nurses in a single room. Each room is furnished with built-in quartered oak closet and chiffonier, between which is a wash basin.

The *power plant* is situated in the center of the hospital group, so as to give equal distribution and minimum length of steam mains, etc., and supplies all electric power and steam used throughout the buildings. The power plant consists of four 250 horsepower Heine boilers, carrying 175 pounds steam pressure, which are fired by crude oil by the Dahl system. The oil is heated to a temperature of 270 degrees Fahrenheit under a pressure of 130 pounds, which does away with the necessity of steam air atomizing. Space has been provided for another boiler, when needed.

The electric generating plant consists of four 125-kilowatt Curtis turbine-generator units, running at 2,400 revolutions per minute. The generators are of the three-wire type, delivering current at 125 volts for lighting and 250 volts for power. The main switchboard is also located in the room with the generators, and distributes both light and power to all of the buildings through individual feeders to each. The switchboard consists of five generator panels, namely, one main power panel, one paralleling panel, which is arranged for connection to an outside source of supply, three lighting panels. Each building has a main switchboard for light and power.

All steam, hot and cold water, steam return, gas, electric and other pipes are run in a system of tunnels connecting the power house with each building. All pipes in the horizontal and vertical directions are placed so as to be within easy reach in case of the necessity of repair. Low pressure steam from turbine and pump exhaust is used for the direct radiators in all wards and buildings, except in the receiving building, where, as already stated, the plenum system is used for the heating of operating rooms and amphitheaters. There are 22,000 feet of direct radiation installed in the buildings so far constructed. There is also located in the power plant a twenty-ton ammonia direct expansion refrigerating machine, with brine system of circulation to the main refrigerator in the kitchen, butcher shop and main storerooms, which is used for cold storage and ice-making. Cold storage in the wards is obtained by the use of artificial ice in refrigerators.

The hot water system is a forced circulation, the water being heated to 140 degrees by the exhaust steam. All pumps in the power plant are duplex and in duplicate, reducing the chance of a shut-down to the minimum. There are two fuel oil tanks, one for the fire room, having a capacity of 11,000 gallons, and the other for the engine, having a capacity of 1,500 gallons. Two feed water heaters and purifiers are installed in the boiler room. The boiler pumps are duplex, in duplicate, of large capacity. All machinery operated by power is electrically driven, there being forty motors installed at present. There are four hydraulic elevators, five electric elevators, and a number of electric and hand operated dumbwaiters. On the southerly side of the power plant, with which it is closely connected, is the laundry,

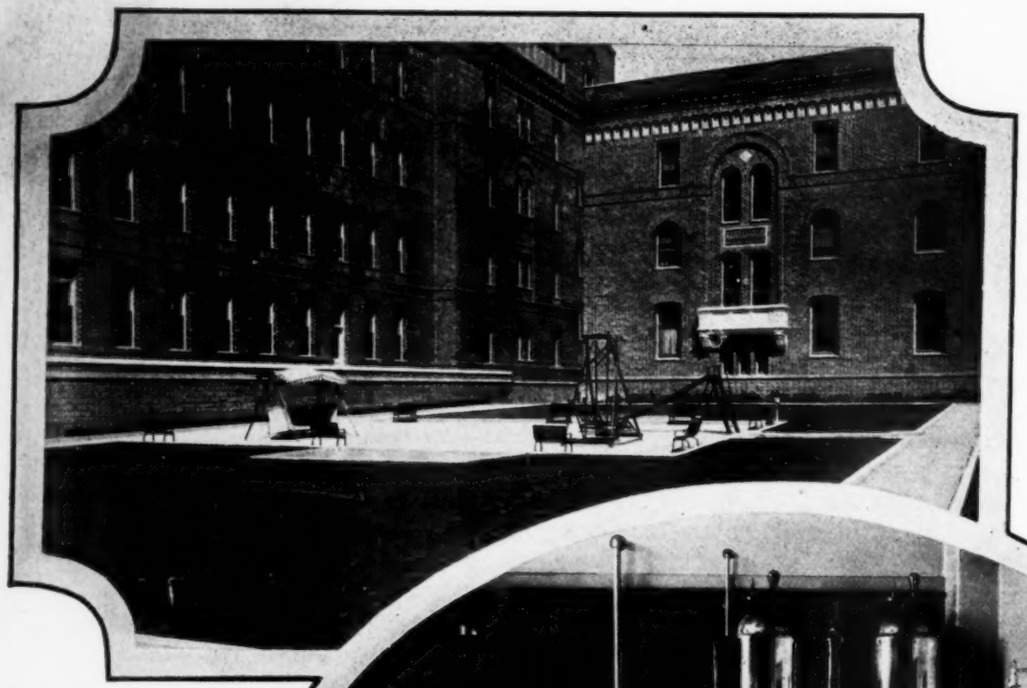


Fig. 11. Playground, children's department.

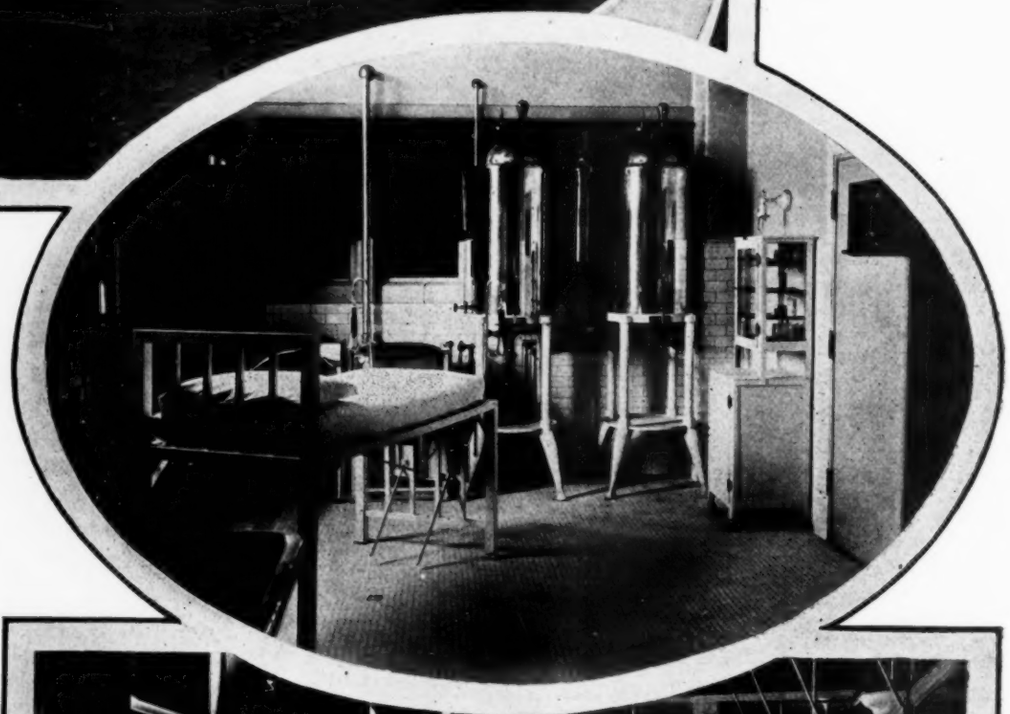


Fig. 12. Delivery room, maternity department.

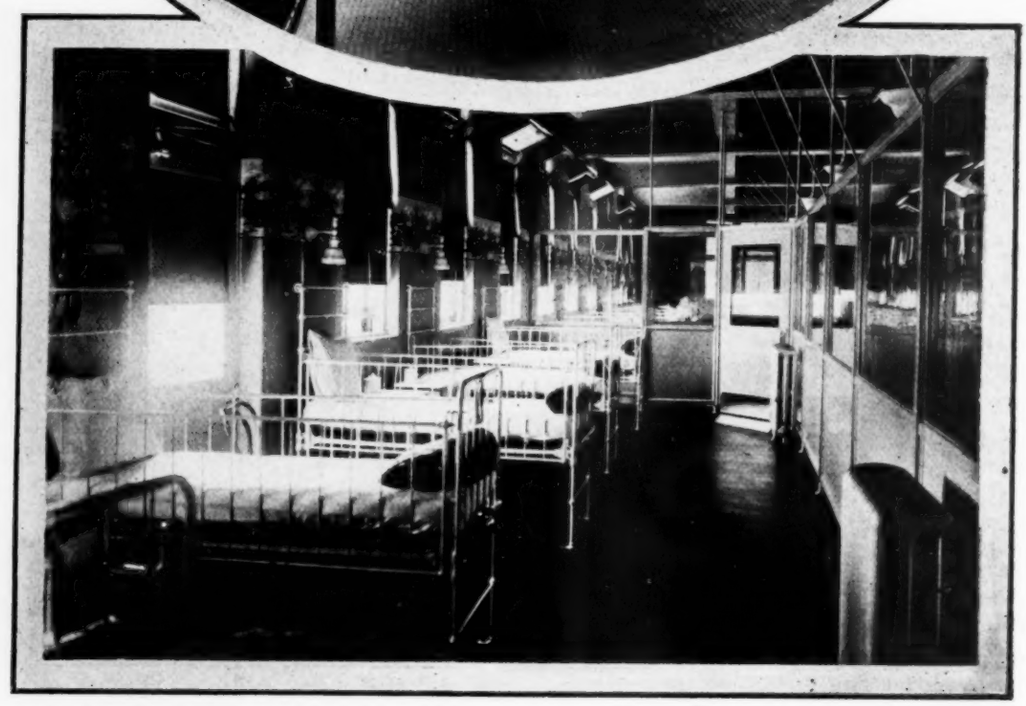


Fig. 13. One of the four glass cubicles, children's wards. Each cubicle contains six beds.

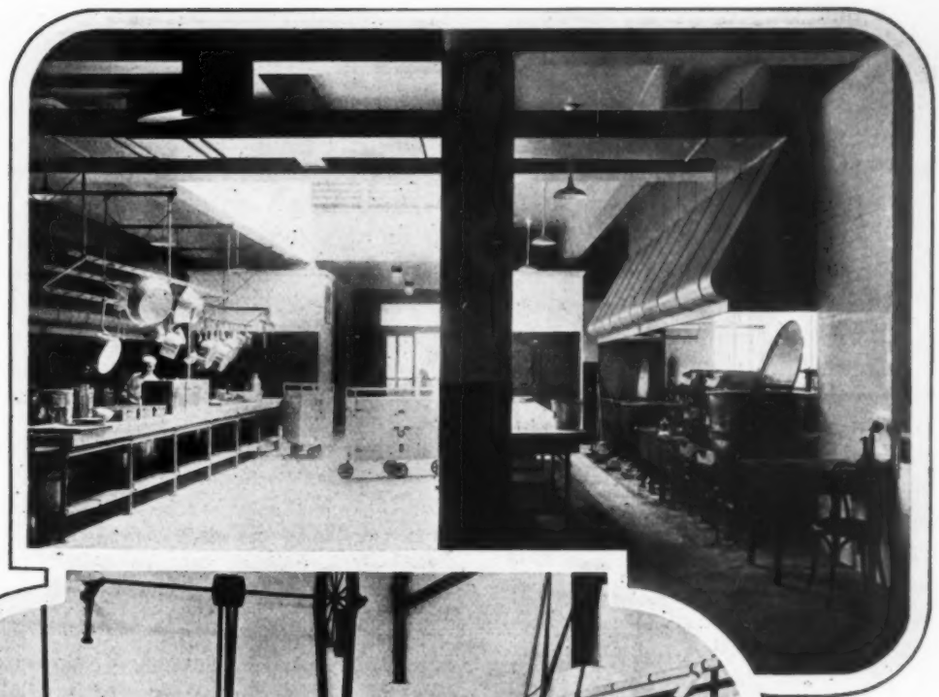


Fig. 14. The main kitchen.

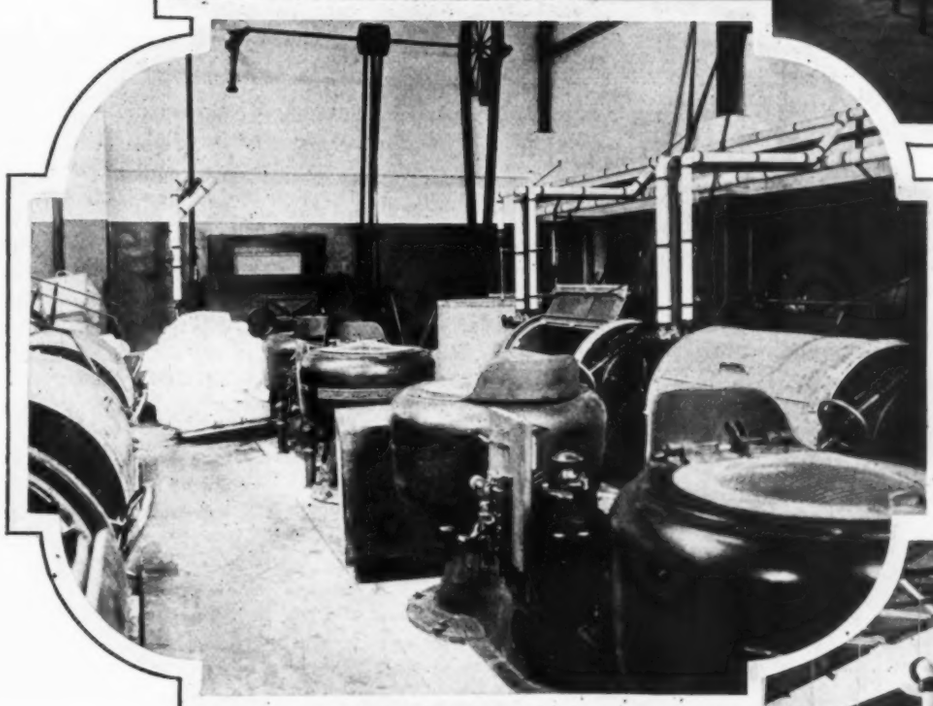


Fig. 15. The laundry, showing washers and extractors.

Fig. 16. The four turbine-generators.

in which a complete and very extensive plant is installed.

The time system is operated through a master clock in the superintendent's office, from which an electrical impulse is sent to each of the sixty-eight electric clocks throughout the building every minute. The call signal system for doctors, nurses and other employees is a buzzer system, operated from the telephone switchboard, buzzers being installed on each floor of every building. The silent call system from the patients' beds is operated on the 125-volt lighting circuit. Upon the patient pressing a button in the flexible cord attached to the bed, it lights a green light over the bed, also a green light at the nurse's desk, in the ward corridor, in the diet kitchen and in the main office directly over the private exchange board. The method of registering the silent call system is referred to above in connection with description of the administration building.

The telephone system consists of a private exchange equipped for 159 Bell telephones. At the present time there are but eighty-two installed.

The artificial lighting in the buildings is of the "semi-indirect" type, the lower portion of the fixture being translucent, while the major portion of the light is reflected from the ceiling.

Plans for the tuberculosis department, with capacity of 250 beds, and for the isolation department, with capacity of 110 beds, are now being prepared, and construction will follow in the near future. It is probable these buildings will be ready for occupancy within a couple of years.

The equipment of the San Francisco Hospital has been given much attention. Every room in the hospital was first equipped on paper and then each item was totaled in the aggregate and a stock card made for each article. This card showed the rooms to which such article was to be assigned, so that as the equipment arrived at the hospital no confusion ensued. Moreover, this method furnishes a complete inventory of the hospital equipment. A committee was appointed by the board of health to equip the hospital. As the style of each article was decided upon, photographs, cuts or designs were made so that there could be no doubt as to what the contractor was bidding upon. Further, each contractor was required to submit a sample, which samples have been retained, and placed in what is known as the "sample room."

There are many features of construction, equipment and management that cannot be described without making this article too lengthy. Suffice it to say that the standard of the hospital is such as to entitle it to be ranked as one of the leading hospitals of this country.

Great credit is due the members of the board of health, especially those of the building and hospital committees, as well as the architectural commission, for the care with which they have handled this problem. It is through their efforts that San Francisco has one of the most practical, as well as most beautiful, municipal hospitals. It is to be hoped that this noble group of buildings will remain as a monument to the honor of those who have been privileged to be associated with its construction.

BIG PUBLIC HEALTH MEETING

Annual Convention of the American Public Health Association at Rochester Brought Notable People

The 1915 meeting of the American Public Health Association was one of the most successful and productive the Association has had. There were about 2,000 health workers present in Rochester and over 150 papers were presented before the New York Sanitary Officers' Conference and before the general sessions of the American Public Health Association and its six sections. This meeting included not only the forty-third annual meeting of the Association, but also the fifteenth annual conference of the Sanitary Officers of New York, called by the state department of health.

It was probably one of the most important public health gatherings that this country has seen for some years. Among the noted speakers on the program were Gen. Wm. C. Gorgas, Surgeon General of the United States Army; Prof. Wm. T. Sedgwick, a pioneer in the education of public health workers, who is professor of biology and public health at the Massachusetts Institute of Technology and president of the Association; Dr. Herman M. Biggs, New York State commissioner of health; Prof. C. E. A. Winslow, director of the division of publicity and education in the New York state health department, who has since become professor of public health at Yale; the Honorable Wm. C. Redfield, Secretary of Commerce, Washington, D. C.; and His Excellency, Governor Whitman, of New York. Governor Whitman was most enthusiastic in the stand which he took for public health.

The meeting was an important one in the history of the Association, not only on account of its size and the enthusiasm which was present at all the various sessions, but also because it was the occasion of a slight reorganization in the form of government of the Association which constitutes a distinct step towards making the Association an increasingly important factor in public health work throughout the United States.

Methods of Acquiring Drug Habit

Dr. Joseph C. Doane, chief resident physician of the Philadelphia General Hospital, in a recent study of 153 cases of habitual users of drugs, arrived at the following analysis with special reference to methods of acquiring the habit:

Association	86
Doctors' prescriptions	14
Smoking opium	23
Other drugs, mainly cocaine	4
To keep awake	2
To cause sleep—quiet nerves	17
Not stated	7
Total	153

A SOCIAL SURVEY OF DISPENSARY PATIENTS IN PHILADELPHIA

Report on One Thousand Cases—Results Show "Abuse of Charity" in Only Twenty Instances—Unemployment, Poverty, Illness, Alcohol, Ignorance Are the Chief Causes of Need for Dispensary Care

By BLANCHE JOBES, Special Investigator for the Social Service Department of the Presbyterian Hospital, Philadelphia, Pa.; FRANCES HOSTETTER, R. N., Head Worker

DURING the eight weeks from March 1 to April 24, 1915, one thousand patients entered in the dispensary register of the Presbyterian Hospital as new patients or as coming to a new clinic, were interviewed for the purpose of determining the causes impelling them to seek public medical advice, their financial circumstances and their social needs. The following facts and figures have been collected with every effort at strict accuracy and with as much thoroughness as the necessarily hasty character of the interview would permit. While there are doubtless many minor errors and mistakes of judgment, the results are presented with confidence in their essential accuracy.

MEDICAL ANALYSIS

These thousand patients were found to come from 924 families, over 1,500 members of which were being or had at some time been treated at the Presbyterian Hospital. Of the thousand patients who happened to be interviewed, 347 had themselves been previously treated, many of them at the same clinic. About 25 of them attended more than one clinic during the two months. They were distributed among the various clinics as follows:

General medical	177	274 medical	480 adults
Children's medical	97		
General surgical	303	408 surgical	202 children
Children's surgical	105		
Orthopedic	12		
Eye	117		
Ear, nose and throat	104		
Skin	37		
Gynecological	63		
Nerve	14		

1,029 clinics attended by 1,000 patients.

Diagnoses. An analysis of the diagnoses shows the following rough classification:

Chronic troubles	about 25	cases
Slight or temporary	about 300	"
Needing a specialist or hospital facilities	about 490	"
Undiagnosed	159	
Diagnosis illegible	11	
History not found	11	
Examination negative	4	
	1,000	

Hours for Clinics. It was impossible to obtain from the patients any clear opinion as to the best hours for clinics. A study of the situation, however, made it apparent that an earlier hour, say 10:30, for the morning clinics and a later, say 2:30, for the afternoon clinics would obviate the frequent necessity of irregular or omitted lunches, and would enable school children and workers to come without cutting into both halves of the day.

Usual Medical Resource. In 790 cases the usual medical resource was determined and 471 or nearly 60 per cent were found to use dispensaries habitually. Of the 319 who go to private doctors as a rule, comparatively few had never entered a dispensary before. Many of the others stated that they had hitherto not needed a doctor.

Free Prescriptions. Free medicine was given during the time of the investigation to 37 of the families listed. By all but eight of these it was undoubtedly needed. Forty other patients were noted whose financial circumstances would probably have warranted the giving of free medicine, though it is not known that any of these asked for it. It is very difficult to decide from a hasty scrutiny of the patient's appearance and statements if he is entitled to free medicine or not, and just as it requires the skill of a physician to discover his physical ailment, so is the opinion of a social service expert necessary to the just granting or denying of a free prescription.

REASONS FOR COMING

Need for Specialist. Among the eye and ear cases, many were children whose parents had received notice of defects from the school physician. Twenty were sent directly by the medical inspector or brought by a school nurse. Sixteen others were sent in by homes, nine of them from the Presbyterian Orphanage.

Confidence. Those who come to a hospital because needing a specialist often come because they do not know where else to find a suitable one. Many also have been duped by quacks and patent remedies, and turn to the hospital with confidence in its reliability.

Convenience. Among the surgical cases, 54 accident cases, most of them sent from the receiving ward, were noted. Under ordinary circumstances most of them would probably not have come to the dispensary. Many of them were willing to pay for treatment, one offering to do so.

Sent by the P. R. R. In a class apart are the Pennsylvania Railroad men who are sent to the hospital by their relief doctor under an agreement

with the hospital. These are considered in full later.

CAUSES OF POVERTY

Unemployment, Low Wages, Sickness, Disability, Death, Desertion. While the need for a specialist, confidence in the hospital, convenience and other motives weigh in many instances, an overwhelming number of people seek a free dispensary because of poverty, due to a variety of causes, among which unemployment figured in 305 cases and low wages in 205, the two frequently going hand in hand. Sickness or disability, such as blindness or old age, played a large part in 151 cases, and the death of one or both parents in 101 cases, including 30 widows. Desertion or illegitimacy was a factor in 38 cases. Many families, who, on a low wage, manage to keep a little ahead while fortune smiles, are obliged, when confronted by sickness to husband their scanty resources for food and rent, which cannot be obtained free. Others with refined tastes and aspirations pocket pride and accept free treatment in order to keep up a standard of living, by no means luxurious, but covering a little more than the bare necessities.

Improvidence. Improvidence enters into the situation in 122 instances. This is especially prominent in the case of single men with a wage adequate for one, though not always for a family. One boasted that he "never has a cent." But perhaps these are offset by the several instances in which young men are helping to support parents or relatives. Alcoholism is known to be a factor in 21 cases and doubtless influences many more. Family improvidence must be discounted somewhat, for, though we can calculate with a cold eye the annual income, we cannot always see the hidden drains that may sap that income. Unfortunate relatives, sickness not explained, reticence in speaking of family troubles may all or each have reduced it. In our ignorance of these facts we may call their poverty improvidence, but who shall say it is improvident to help one's friends, or to attempt a fair standard of living? We can but be especially lenient toward the colored people with their childish thirst for enjoyment, hereditary lack of foresight, and unrestrained generosity toward stray children and relatives.

Abuse. In 20 cases out of the 1,000 it was felt that the acceptance of the free care offered by the hospital amounted to abuse. In 15 other cases the absence of definite information or the presence of suspicious circumstances left the question open to doubt. Thus in only 35 cases of the thousand or 3½ per cent was "abuse" judged to be present or probable.

Twenty-two patients came to the surgical clinics and 16 of them were in need of hospital fa-

TABLE OF THE THIRTY-FIVE CASES

No.	Nationality	Religion	No. in Family	Chief Wage Earner	Income	Rent	Savings	Usual Med. Res.	Need Hosp. Facili.
28.....	United States	Protestant	2	Engineer	$ 800	Own	$446	Private	.....
91.....	United States	Roman Catholic	4	Policeman	1,080	$15	Yes	Public	Yes
203.....	Italian	Roman Catholic	6	Butcher	?	20	?	Private	.....
241.....	.....	Jewish	3	Tailor shop	850	20	No	Private	Yes
291.....	Irish	Roman Catholic	5	Bookkeeper	1,976	20	No	Private	Yes
298.....	Colored	Protestant	6	Hodcarrier	1,807	17	Yes	Public	.....
319.....	United States	Roman Catholic	4	Stonecutter	1,456	23	No	Private	Yes
321.....	Russian	Jewish	6	Junk dealer	?	25	?	Public	.....
324.....	United States	Protestant	1	Unable	?	?	?	Public	.....
323.....	Hungarian	Jewish	7	Tailor shop	?	?	?	Public	Yes
373.....	United States	Protestant	5	Motorman	1,352	25	?	Public	Yes
392.....	United States	Protestant	7	Ice and coal	2,080	20	Yes	Private	.....
439.....	Colored	Roman Catholic	2	Chauffeur	780	8	No	Private	.....
463.....	United States	Protestant	5	Baker	1,404	20	No	Private	.....
504.....	United States	Protestant	3	Carpenter	?	?	?	?	Yes
511.....	United States	Protestant	4	Butcher shop	?	Own	?	Private	Yes
540.....	Irish	Roman Catholic	1	Unable	?	Boards	?	Public	.....
555.....	Irish	Roman Catholic	3	Gardener	?	Own	Yes	Public	.....
574.....	United States	Protestant	6	Printer	2,846	?	?	Public	.....
615.....	United States	Protestant	3	Foreman	1,040	15	No	Private	.....
652.....	United States	Roman Catholic	9	Policeman	2,860	19	Yes	Public	.....
686.....	United States	Roman Catholic	6	Policeman	1,116	23	No	Public	Yes
690.....	Russian	Jewish	4	Shop-keeper	?	30	?	Public	.....
757.....	United States	Protestant	3	Contractor	?	15	?	Private	Yes
795.....	Russian	Jewish	4	Shoemaker shop	?	40	No	Public	.....
797.....	United States	Roman Catholic	8	Paint dealer	?	None	?	Private	Yes
807.....	Russian	Jewish	3	Hatter	?	?	?	Public	Yes
815.....	Russian	Jewish	9	Express and Furniture shop	?	35	?	?	.....
816.....	United States	Roman Catholic	3	Policeman	1,116	18	Yes	Private	Yes
878.....	Roumanian	Jewish	7	Old furniture	?	25	?	Public	.....
827.....	United States	Jewish	6	Grocery shop	?	25	?	Private	Yes
848.....	United States	Protestant	1	.....	530	15	Yes	Public	.....
912.....	United States	Protestant	4	Weight checker	2,248	19	No	Private	.....
915.....	Russian	Jewish	7	Butcher	1,716	17	No	Public	Yes
921.....	United States	Protestant	6	Produce business	?	?	?	Private	Yes

cilities. The annual income of these families was estimated to be usually over $1,000, and the worker's employment was practically regular and of a responsible nature. These include four policemen, a foreman in the bureau of highways, eight small shop-keepers, and an ice and coal dealer. In one family there had been much sickness; another patient stated that her father might not let her be treated if it cost anything. An old man of 80 refused to disclose the amount of his savings. Three cases were sent by private physicians, and in three cases false information was given.

Thrift. It is difficult to draw the line between people of this class and those who with praiseworthy thrift are laying by for old age or striving to buy a home, and who see their little capital, won by hard economies, threatened by the necessity for long continued medical treatment or by the need for a high-priced specialist. In deciding where to class the doubtful cases the nature of the illness was always considered. Of the 99 cases listed under "thrift," most belong to this class, including several aged couples living on their savings. The cases of abuse are also included.

Savings. Of the 924 families, 631 claimed to have no savings, and in most cases the claim was only too evidently true; as when a young colored mother asserted evasively that she had "some," but when pressed confessed the amount to be only $3.50. Forty-seven had savings ranging in amount from $25 to $1,000, and aggregating $8,900, distributed as follows:

3 families had			$1,000
4 families had from	$400	to	500
10 families had from	200	to	300
13 families had from	100	to	150
8 families had from	50	to	100
9 families had from	25	to	50

This list includes several Pennsylvania Railroad men.

Buying Homes. Of the other cases in which the question of savings was settled, 21 owned their homes, 18 were paying for homes in building and loan associations or keeping up interest on mortgages.

Insurance, Sick Benefits. The matter of insurance and sick benefits proved a pretty sure index of a family's financial condition. Even the poorest keep up burial insurance when possible. Only 603 out of the 848 known were paying insurance, and only 326 out of the 824 known had sick benefits, the latter usually being on the chief wage earner.

Fig. 1 shows graphically the proportion of the various causes which weigh in sending patients to the dispensary.

FINANCIAL ANALYSIS

In order to arrive at the family income and the various factors entering into the economic situation, all wage earners in each family were listed and their earning capacity and actual earnings determined whenever possible.

Fig. 1. Reasons for coming to dispensary.

Trades and Occupations. The various trades represented are interesting as showing the large percentage of unskilled workers. Laborers head the list with 310, including 89 teamsters. There are 74 ironworkers and mechanics of all kinds, and 109 factory workers, including 76 women and children. Brakemen and conductors figure largely on account of the P. R. R. men. There are 9 policemen, four of them counted among the cases of abuse. Among women, domestics number 75, and 76 are engaged in day's work and cleaning. Most of the latter are mothers. It is interesting to note that out of 155 married women employed, 78 are colored; in other words, there are four times as many colored mothers working as white, in proportion to the number of colored families represented. At the time of the interview 921 workers were employed, 121 were on part time, 221 were idle, and the balance of 107 were unable to work.

TABLE OF TRADES

Male

Laborers	221	Plumbers, etc.	17	Electricians	8
Drivers	89	Firemen	16	Foremen	8
Mechanics	70	Chauffeurs	16	Paperhangers	8
Errand boys, etc.	46	Hostlers	16	Printers, etc.	8
Factory workers	33	Porters, etc.	16	Gardeners	7
Woodworkers	32	Motormen	12	Bricklayers	6
Salesmen	32	Watchmen	12	Butchers	6
Painters	19	Stoneworkers	10	Hucksters	6
Waiters, etc.	28	Tailors	10	Blacksmiths	6
Shopkeepers	25	Janitors	9	Conductors	6
Brakemen	19	Cooks	9	Bartenders	4
		Engineers	9	Miscellaneous	73
		Policemen	9	Apprentices	24

Female			
Factory (inc. child).....	76	Telegraph operators....	11
Domestics	75	Dressmakers, etc.....	9
Day workers	70	Stenographers	8
Saleswomen	28	Waitresses	8
Laundresses (home)....	21	Practical nurses	7
Clerical workers	19	Charwomen	6
Laundry workers	18	Miscellaneous	13
Cooks	12		

Group I, P. R. R. Men. The financial status of the 63 Pennsylvania Railroad men is so different that it not only warrants a separate rating, but to average it in would be greatly misleading. Most of the 63 men referred were more highly paid than the ordinary. There were engineers, conductors and brakemen, some with salaries as high as $150 a month. Their average daily earning capacity was $2.76 each. Fifty of the men were heads of families whose total annual income averaged $858. The thirteen single men averaged an annual income of $722. Comparatively little was lost by irregularity or unemployment.

Group II, Other Workers. The 924 families include 1,370 workers. Omitting the Pennsylvania Railroad men, the average daily earning capacity of the remaining 1,307 workers, consisting of 842 men, 335 women and 130 children, is $1.76 per person. Their potential annual earnings with no loss from illness or unemployment would be $621,000. Omitting the earnings of single people, this would give an average yearly income of $817 per family. This is none too much for a proper standard of living, but the actual facts are quite different. By sickness and unemployment the average family income is reduced to $725 per year. The 44 per cent of unemployment is partly comprised of seasonal workers, so it is by no means wholly due to the present financial depression. In the best of times many would have been out of employment much of the winter. The loss to income is strikingly shown in Fig. 2.

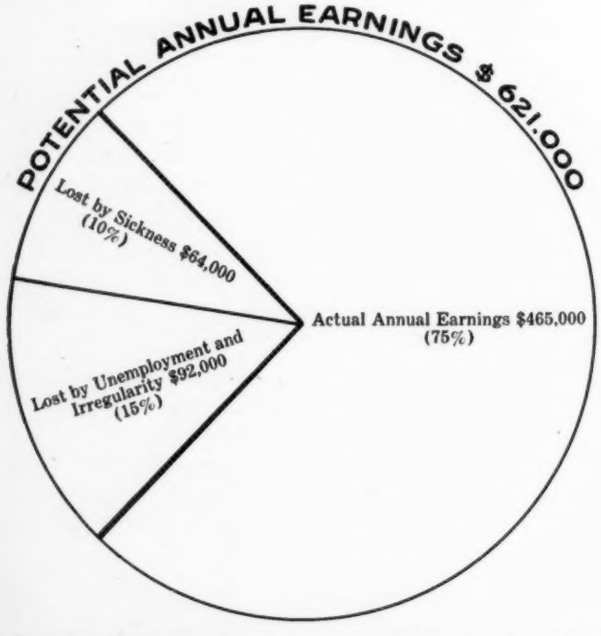

POTENTIAL ANNUAL EARNINGS $621,000
Lost by Sickness $64,000 (10%)
Actual Annual Earnings $465,000 (75%)
Lost by Unemployment and Irregularity $92,000 (15%)

Fig. 2. Relation of sickness and unemployment to the earnings of 1,307 workers (P. R. R. men excluded). With loss from sickness and unemployment eliminated, the average annual income per family would be $817 instead of $725.

Distribution of Income. As the average number in the families studied is 4.5 persons to a family, this income of $725 might suffice for the bare necessities were it evenly distributed, but we find 349 families out of 587 whose income is known, falling below this line. In bestowing children Providence unfortunately pays scant attention to the means of subsistence, and we find a family of eight with an annual income of $404, and four families of six with less than $300 per annum on which to exist. It is not out of the ordinary to find a family of nine with an income of $344.

Following is a table giving the annual income of 63 families comprising 369 individuals, the average size of these families being 5.9 persons, and the average annual income $385.

Four families of 3 members		Eighteen of 6 members	Ten families of 7 members	
$156	$236	$140	$260	$390
234	270	220	356	430
		240	360	480
Ten families of 4 members		250	360	482
		296	382	528
$224	$336	304		
225	340	340	Six families of 8 members	
266	340	360		
312	340	370	$404	$572
320	352	375	516	572
		390	520	634
Eleven families of 5 members		416		
		416	Four families of 9 members	
$240	$360	436		
264	360	440	$344	
312	372	442	537	
312	400	450	552	
350	432	480	624	
$460				

Group III, Single People. The average annual income of the 158 single people (the 13 Pennsylvania Railroad men excluded) is $482. As this includes a number of comparatively well paid men, it is obvious what that of the women must be.

FINANCIAL TABLE

Group I, Pennsylvania Railroad Men		
Total daily earning capacity.....		$ 173.70
Distributed among 63 workers, or		
Average daily earning capacity.....		2.76
Total family income.....		42,940.00
Distributed among 50 families, or		
Average family income, per year.....		858.00
Group II, Others		
Total daily earning capacity.....		$ 2,030.08
Distributed among 1,216 workers, or		
Average daily earning capacity.....		1.76
Total yearly earnings:		
Regular workers (56%).....	$276,750.00	
Irregular and seasonal workers (44%)	188,315.00	465,065.00
Distributed among 1,087 workers, or		
Average annual earning, per worker.....		428.00

Total family incomes	$388,959.00
Distributed among 537 families, or Average family income, per year	725.00

GROUP III, SINGLE PEOPLE

Pennsylvania Railroad Men

Total annual earnings	$ 8,388.00
Distributed among 13 workers, or Average annual income, per single person	722.00

Others

Total annual earnings	$ 76,106.00
Distributed among 158 workers, or Average annual income, per single person	482.00

LIVING CONDITIONS

Housing. As may be imagined, the conditions under which most of these families live are not ideal, though owing to the superior housing conditions in West Philadelphia as compared with the more densely crowded parts of the city, and to the small proportion of foreigners, 314 homes could be classed as relatively good. A map which was prepared revealed that the patronage of the dispensary was remarkably localized. Except in the cases of the 75 homes visited, the conditions had to be inferred, and a judgment was therefore ventured in only 744 cases. In 230 of these the conditions were only fair, and in 200 positively bad. A few of the colored homes visited were as bad as any in the city. The average rent paid by the families studied is $10.80. Below is an analysis of the housing of the 391 families for which the size of the house was ascertained. Of these 391 families only 236 have baths.

TABLE OF HOUSING

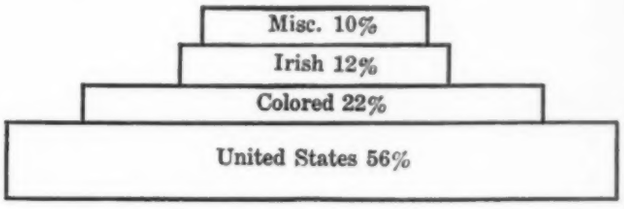
Size of House	No. of People	No. of Families	Average Size Family	Percent	No. Rooms per Person	No. Persons per Room
7 rooms or over	336	52	6.46	13	1.11	.95
6 rooms	717	130	5.52	36	1.09	.92
5 rooms	300	60	5.00	15	1.00	1.00
4 rooms	346	76	4.55	19	.88	1.14
3 rooms	65	18	3.61	4	.83	1.20
2 rooms	73	23	3.18	5	.63	1.59
1 room	99	32	3.09	8	.32	3.09
	936	391	....	100	....	....

American-born people of the Protestant faith predominate among the patients, Irish Catholics ranking second. As to religion the families classified as:

RELIGION

Protestants	499
Roman Catholics	367
Jewish	29
Greek Orthodox	1
	896

Races. Below is shown the relative proportion of the various race or national groups:



Miscellaneous consists of

Russian 19	Finnish 2	Armenian 1
English 17	Polish 2	Danish 1
German 16	Roumanian ... 2	Greek 1
Italian 15	Scotch 2	Hungarian 1
Austrian 4	Swiss 2	Welsh 1

Twenty-five were not citizens.

SOCIAL NEEDS

The need for social service among these families is perhaps best shown by the fact that 144 of the thousand were already known to the department. In most instances this became obvious before the interview had progressed far, as no time had to be lost in overcoming a suspicious attitude. Many of the patients were eager in expressions of gratitude for services rendered in the home. Fifty-three additional cases were taken up by the social service, many of them as a result of the inquiry made at the door. The advantage of this was evident when several cases of acute need or serious family trouble were at once turned over to the social worker. Atrocious home conditions were also detected at the outset and home instruction begun without loss of time. A sick, homeless man was at once put in touch with the proper agencies. A number of "rounders," who habitually waste the time of dispensary doctors, were also spotted, giving an opportunity to turn them back to the hospital to which they properly belonged. Cases of abuse were also discovered before treatment had been given.

Referred to Social Service. Besides the cases taken up at once by the social service, many were referred which could not be handled because of the pressure of work. One hundred and thirty-eight families were noted as needing at least a visit of investigation to ascertain the needs. The advantage of such a visit is exemplified by the fact that in visiting to secure or verify interviews a number of needs were discovered which would otherwise have been unsuspected. The desirability of some regular follow-up system was glimpsed in the number of cases incidentally discovered where glasses had been ordered and never secured, a needed operation postponed indefinitely or a prescription had remained unfilled.

Other Agencies. The Bureau of Registration was used to ascertain what families were known

to charitable agencies. The result was as follows:

Known to relief agencies	97
Other medical agencies	56
Other agencies	81
	234—25%

Of these 14 had applied to the Emergency Aid Committee.

CONCLUSION

A study of the foregoing will reveal, not only what a small percentage of people are abusing the privileges of the hospital, but will bring home with striking force how utterly impossible it would be for the vast majority of those patronizing the dispensary to pay for the kind of treatment and facilities it affords. In presenting the social factors an effort has been made to show the peculiar need of most of the people dealt with for the very best of medical skill, if the health of the community is to be conserved. Living as most of the patients do under adverse home conditions, undernourished and ignorant of the simplest rules of hygiene, the observer was constantly impressed with the overwhelming need for just such a reliable, accessible and inexpensive medical resource as the hospital affords.

Starting with an impression that in most cases it would be both practical and salutary to the patient's self-respect to charge a small fee for each visit, it became increasingly apparent to the investigator that the difficulty of deciding justly for each case on each visit as to the wisdom of charging, might largely vitiate the advantages of the system, while to charge a uniform fee with no exceptions would obviously work hardship to some families, resulting in the acceptance of money really needed for food or in keeping the patient away altogether, unless the inquiry made at the admitting desk were tactful and intelligent. A charge for each dispensary card would be feasible, however.

The personality and training of the admitting officer of a dispensary or hospital are of the highest importance. It has been intimated that, with social knowledge and skill in interviewing, this officer could practically eliminate abuse and could also discover at the outset cases in which the social need equals or transcends the physical. But the duties of this officer should cover much more than this, and as a matter of fact, his or her powers are even now (unfortunately) very great. For to the patrons of the hospital this point of first contact *is* the hospital, and too often the attitude of the admitting officer determines the opinion formed by the public. He it is, too, who has the best opportunity of gaining the full confidence and cooperation of the patient, for in this first interview his attitude is generally fixed for all time. The admitting desk is also the natural bureau of adjustment, and should form a link for the settlement of difficulties and the smoother coordination of the various departments.

Moreover, as general policies can only be carried out through numerous small decisions, upon the admitting officer must devolve much of the task of interpreting and applying the policies of the hospital. Therefore he should possess a clear conception of its aims and functions, as well as an intimate knowledge of the lives and needs of those who seek its aid. A broad education, social training and a rich, balanced personality is not too good an equipment for this position, and a proper recognition of its importance is one of the first steps toward humanizing, adapting and strengthening the work of the hospital.

While our economic system is such that vast numbers of people must remain underpaid, and overworked or unemployed, while the pressure of economic necessity forces children into unhealthful industrial conditions, without proper education or physical and mental development, the welfare of society demands that every effort should be made to at least preserve their physical efficiency. The hospital, with all its defects, is the best agent yet devised for attaining this end, and common prudence as well as humanity would seem to call for an extension rather than any curtailment of its functions.

The Presbyterian Hospital of Philadelphia, because of its location in a quarter of the city where housing, overcrowding and other adverse factors of environment do not vitiate the efforts of physicians, nurses and social workers, is peculiarly adapted to the development of a model dispensary system.

American Nurses in Europe

The nurses of the United States of America have given many demonstrations of their sympathy with their British colleagues, while the American Colony in Paris is maintaining a fine hospital for the wounded men of the Allied Nations at the Lycée Pasteur Hospital, and Miss Helen Scott Hay and her units are at work in Russia, and others in Serbia. Lately a unit of some 32 American doctors and a staff of 75 nurses arrived in this country, their services were accepted by the Director General of Medical Services, Sir Alfred Keogh, and on Friday, July 2d, they left for France to take up the work allotted to them in a large, new hospital. This unit comes chiefly from Chicago, and units from other great cities are prepared to follow suit. We need have no fear of a serious shortage of well trained nurses, whatever may be the exigencies we have to meet, so long as such generous help is given by our Colonies and our American friends, in whose ranks some of the best trained nurses in the world are to be found.—From the *British Journal of Nursing.*

Fig. 1 Albany Hospital, Albany, N. Y.

THE TREATMENT OF MENTAL DISEASE IN A GENERAL HOSPITAL[1]

Treatment of Mental Cases in the Early Colonial Hospitals Followed by Segregation of the Insane—The Need of Early Treatment—Restitution of the Original Plan in Modified Form to Provide in General Hospitals Preliminary Observation of Incipient Cases—Experience of the Pioneer Mental Pavilion in the Albany Hospital

By J. MONTGOMERY MOSHER, M. D., Attending Specialist in Mental Diseases, Albany Hospital

THE treatment of mental disease in a general hospital is a new idea, or rather a revival of an old one; it is the reversion to a principle, at once humane and scientific, recognized and abandoned long ago. The first hospital of America, the Pennsylvania Hospital, was granted a charter in colonial times, upon the petition of citizens of Philadelphia, for the care of "persons distemper'd in mind." And though this plea arose, in part, from the annoyance caused by these persons at large in the Province, it is worthy of note and highly creditable to the enlightened and humane instinct of the colony, that the greater motive was the relief of suffering, for the experience of an ancient institution had shown that "above two-thirds of the mad people received into Bethlehem Hospital, and there treated properly, have been perfectly cured."

This high conception of duty entertained by the founders of the Pennsylvania Hospital was felt elsewhere, and seventy years later the municipal hospitals in Boston and New York made provision for the insane.

But difficulties arose to prevent the permanence of the plan. The chief of these seems to have been the increasing number of patients, with restricted accommodations; and eventually separate provision was made for the insane in distant and specially constructed buildings. There is no record of the reasons for this change, but the accumulation of chronic cases, and the resulting turbulence, may be assumed to have been effective in modifying the original design, and in forcing a distinction between mentally and physically afflicted patients. Active treatment was not neglected in the separate departments of the hospitals in Philadelphia, Boston and New York, which have always represented the best in mental practice, but the feature of custodial care was inevitable.

And so there has been a gradual drifting away from the gentler conception of the forefathers, who saw fellow-beings only "distemper'd in mind" and susceptible of restoration, toward a merely perfunctory or necessary toleration of the growing army of the insane. Words or phrases express a good or evil thought only as they are interpreted: the term "insanity," though generically not of ominous significance, has come to represent in the popular mind the state of an outcast, an individual to be feared and avoided. The state has assumed the burden of care, with the incidental segregation of the insane as a distinct class. The statutory and fiscal regulation

[1]This is the eighth and last in a series of papers on "The Government of State Hospitals for the Insane." Last month appeared "Nurse Training in Mental Hospitals."

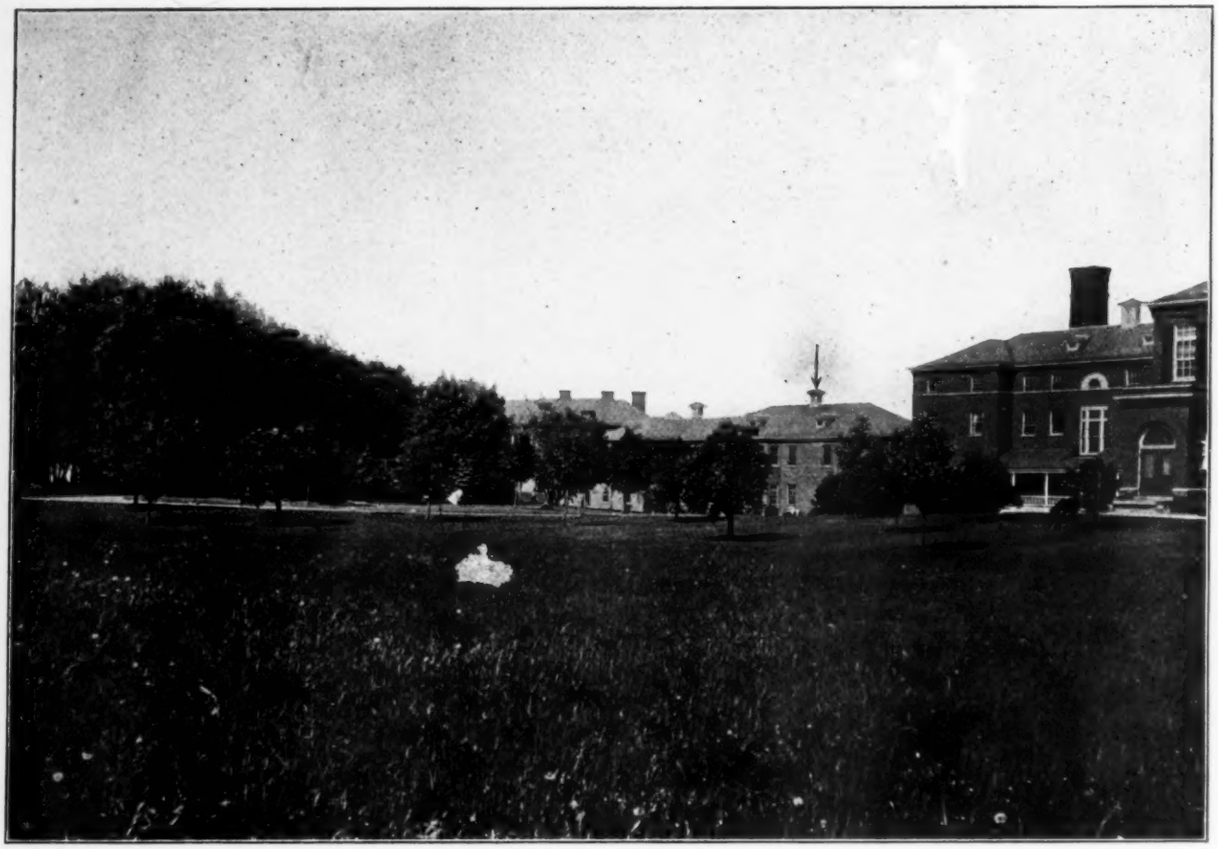


Fig. 2. Albany Hospital, Albany, N. Y. Hospital grounds. Pavilion F is indicated by an arrow.

to bring about this modern provision has resulted in a system of judicial procedure and restriction not always beneficial to the patient, and often antagonistic to scientific medical progress.

The effect has been the postponement of proper treatment until the disease has so far advanced as to render help futile, for the patient himself and his friends are reluctant to approach a court for a judicial declaration of insanity until such a step is unavoidable. It is not then taken with a view to cure, but upon the abandonment of hope, as a measure of safety. The large public hospitals, though proposed and developed by physicians upon medical principles, have become largely custodial, are popularly associated with this function, and are deprived of the utilization of their splendid resources for early treatment and cure. If this condition of affairs be regarded as susceptible of unfavorable criticism, it must be borne in mind that only during the last twenty-five years have hospitals, either special or general, been accepted as necessary to the treatment of disease. Prior to that time they were institutions for the care of indigent persons who had no place or convenience at home under the visitation of sickness of whatever character. Modern surgery demanded resources and exactness not to be found in the private house; following closely upon the requirements of surgery came the laboratory and clinical analyses associated with the diagnosis and treatment of internal diseases, and hospitals were thronged by rich and poor alike.

There is no valid reason why municipal general hospitals should not include the victims of mental affections as well as those of surgical and general internal diseases. Indeed, when one attempts to find phrases for distinguishing mental diseases from others, language fails to supply the terms. If it be argued that special buildings are needed, the same objection may be made to the admission of either surgical or communicable diseases. The most elaborate structures are demanded for surgery, and their administration is conducted with the precision of military service. This is also true of contagious disease. The idea of a modern hospital rejects as primitive any plan contemplating a building in which adjoining rooms serve for the admission of any patient who may apply. Classification is the first essential, and may include mental cases, whose appeal is as urgent as it was one hundred and fifty years ago, and whose needs are less exacting than those of many patients now received without question. The line which separates them is a very indistinct one: it is often imaginary and always traditional. There is practically no dis-

Fig. 3. Albany Hospital, Albany, N. Y. Pavilion F. Room for excited patient, showing sliding wire screen for window.

ease, surgical or medical, in which the action of the mind is not involved, though this is not always so serious as to demand special therapeusis. Yet any attempt at definition of insanity fails in the presence of the delirium of fever, the intoxication of alcohol or drugs, or the shock of injuries. The mental complications of Bright's disease, diabetes, tuberculosis, numerous lesions of the nervous system, functional disorder of the digestive apparatus, may frequently assume greater relative proportion than the pathological state causing them, and yet one hesitates to designate the patients as insane. On the other hand, the mental symptoms often appearing during the various crises and the stress of life, manifestations of an exhausted nervous system, present such palpable evidence of physical origin that the restoration of health becomes a purely medical problem, usually, under proper conditions, to be brought to a satisfactory solution. To look over and beyond the readily available resources of a local hospital to a court of law and a distant institution buried in red tape and legal restrictions might be regarded as justifying professional protest.

There are signs of a reaction toward the simpler methods of the earlier day, when the benevolent purpose of the founders and physicians of America's first hospital were not questioned, and mental cases were entitled to whatever was best in practice.

The Albany Hospital appears to have been the first in the United States to revive the ancient practice. The old hospital, originally a jail in the center of the city, was abandoned in 1898, and a series of pavilions with connecting corridors was erected upon an elevated and picturesque plateau of the suburbs. Accommodations were provided for surgical, medical and midwifery cases, and were extended in 1902 by the addition of a pavilion for mental cases, in 1906 by a detached building for communicable diseases, and in 1910 by the purchase of a tract of wooded, sandy land, for a tuberculosis sanitarium. The successful coordination of these departments and harmonious relations with the public authorities have demonstrated the feasibility of this comprehensive plan. The total number of beds for patients is four hundred and ninety, which may be increased in emergency to over five hundred and sixty.

The organization is that of a corporation for charitable purposes. The board of governors, selected from prominent citizens of the city of Albany, serves without remuneration, and directs the policy of the hospital. The superintendent is a physician, who, fortunately for the mental department, has had early training in a hospital for the insane. The resident staff consists of ten interns, one of whom is assigned to the mental wards, with additional duty in the clinical lab-

oratory and on ambulance call. The training school for nurses, under direction of the superintendent of nurses, gives instruction to comply with the requirements of law and the state department of education, and equips nurses for state registration. The mental wards are in charge of a graduate nurse with special training, who directs the work of the pupil nurses. The wards for men, as well as for women, are administered by the nurses. The medical service of the mental wards is entirely under the direction of the attending specialist in mental diseases, who is a member of the visiting staff.

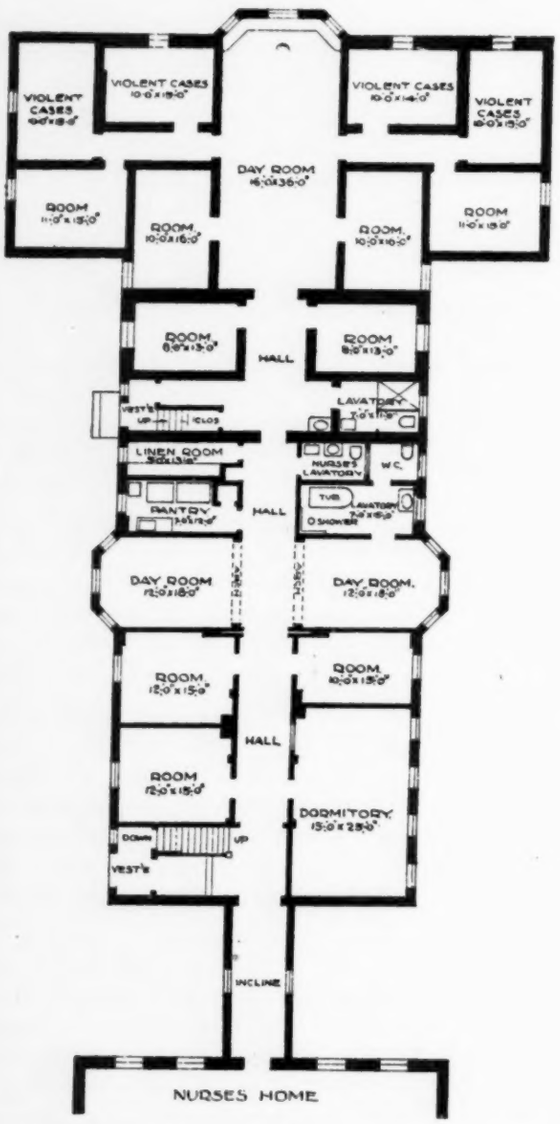


Fig. 4. Albany Hospital, Albany, N. Y. First and second floor plans of Pavilion F (department of mental diseases).

The pavilion for mental diseases, known as "Pavilion F," is in the rear of one of the pavilions off the main corridor, is somewhat remote from the activities of the hospital, and may be reached through the basement of the adjoining building, though for public use, for patients and visitors, the outer door is utilized. This remoteness favors privacy, and has been found particularly advantageous in relieving patients from the commotion and activities of the general wards.

The building is of two stories, the first for women patients and the second for men. Each floor is divided into two distinct departments, separated by double doors. In front are three private rooms and a dormitory of four beds; a transverse sitting room, fully lighted at each end by large bow windows; water section, pantry and linen room. In the rear the sitting room is on the long axis of the building, with two rooms on either side and a separate lavatory. For the better segregation of disturbing patients, cross corridors extend on either side, leading to three rooms each. Three of these six rooms are equipped with wire screens protecting the windows and heavy doors, and in four the beds are bolted to the floor. The remaining three rooms are neatly furnished, attractive and not different from other rooms of the hospital. These have proved most satisfactory in providing isolation for patients whose unavoidable expressions of anguish would otherwise distress their neighbors. Many cases of uncompensated heart disease, nephritis, neuritis, rheumatic fever, old age, surgical conditions and the like have been properly cared for in these rooms, as well as pure mental cases whose restlessness has not been manifested in destruction or violence.

This plan of construction has proved successful in classifying patients of widely different characteristics. There are occasional periods when crowding has proved embarrassing, a condition which occurs in any active institution, but after the experience of twelve years there is suggested no change which could better meet the demands of so compact a building. If it were to be done again, without too great restriction in funds, it is believed no other design would prove more effective and no change would be made beyond concession to the modern ideas of greater liberality in bath room and lavatory facilities, and of improved devices for illuminating, signaling, and the like.

Nine pupil nurses are regularly assigned to this service, distributed as follows: day service, first floor, four, second floor, two; night service, first floor, two, second floor, one. Upon the second floor are two male orderlies, one for day duty and one for night duty. The orderlies have no authority, and are under direction of the nurses. A ward maid on each floor prepares the food and assists in housekeeping. All nurses are under the immediate direction and instruction of the

head nurse. During the night several visits are made by the night supervisor, and hourly inspection is made by the night watchman, who registers a station on each floor. The term of practical instruction for pupil nurses is at least ten weeks. An estimate of the ratio of nurses to patients is not feasible owing to the frequent changes in population and the employment or assignment of special nurses. The need of special nurses in individual cases is determined by the attending physician and in critical cases one or two are detailed, as circumstances require. The extent of personal care rests upon several factors. Frequently the apprehension of the patient may be relieved by constant attendance, with resulting acquaintance and sense of protection, and this is practically invariable on admission. In cases of active delirium and frenzy seclusion is least exasperating to the patient, and watchfulness is enjoined. This obviates the need of mechanical restraint. Mechanical restraint is applied only for the protection of operation wounds, and in cases of critical exhaustion; it is never permitted without the presence of the nurse or without open doors. The form of restraint is a sheet drawn across the bed, and in very rare cases temporary restriction of the limbs, to the extent of protecting both the patient and the nurse. The need of restraint exists for a few hours or a few days, and the total number of patients for whom it is used is very small. No mechanical appliances of any kind have ever been procured.

The simple rule for the guidance of nurses, and the effect of training in this department, are concisely stated by Miss Hearle, the principal of the school: "All persons employed in these wards, nurses, orderlies and maids, fully understand the rule that patients are not to be coerced, or their liberty of action interfered with unless they show a desire to injure themselves or others. The training in Pavilion F is of infinite value in the education of a nurse. In dealing with these patients the most timid young woman learns the absolute necessity for self-control and the folly of showing fear. She also has the opportunity to practice the patience so strongly advocated in her theoretical training."

To ascribe the good results of treatment to the efficiency of the nurses may seem a trite comment; but the question of nursing is much more vital than that of buildings or of drugs. The conditions of a general hospital differ from those of an institution for the insane, many of whose nurses are permanently stationed and habituated to established routine. Here there is little routine. The rapid reception of new cases, whose symptoms and personality must be quickly apprehended, each successive admission presenting a novel phase, and the frequent changes in nurses, each one equipped with general principles only and strange to the work, are factors in an active and exacting service. In a single course of instruction are contrasted the extremes between the prompt, arbitrary and almost relentless decision of the surgeon with the temporizing and compromising policy which should always guide the management of mental cases. The indications for certain measures may be patent at once: their application without detriment demands a refined discretion. The physician's orders are given with the reservation that they are to be carried out only with the acquiescence of the patient. This failing, the manner of approach is modified. Nurses are instructed that the excitement of nervous affections is paroxysmal, and that the intervals may be utilized for the administration of remedies. This principle is soon understood; it obviates friction, lessens fear and promotes friendly relations. Expressions of gratitude to the nurses by patients leaving the hospital are customary, and have given an encouraging estimate of the successful attainment of a difficult task. It has been found that acquaintance with general nursing in the other wards of the hospital is an equivalent for long experience, and establishes a general tone of sympathy and understanding of the claims and rights of sick people as a class.

Food is brought to the serving rooms by dumbwaiter from the general kitchen, and dishes are also specially prepared in the nurses' dietary kitchen. In the serving room it is kept heated and meals are arranged on individual trays which are distributed to patients wherever they desire. The dietary is liberal in quantity and quality, for the need of tempting viands is appreciated. Milk and eggs are supplied in abundance as staples in cases of exhaustion and delirium. The result of generous catering, in accord with the conciliatory plan of treatment, is shown in the facts that recourse to forcible feeding is rare, probably not being required once a year.

Patients may be broadly grouped in two classes: those for whom proceedings in lunacy have been instituted, awaiting transfer to a hospital for the insane, and those who enter voluntarily. To these may be added a third group of patients received in the emergency of delirium or stupor, whose symptoms require analysis before determining whether a passing or a permanent mental disqualification is present. In this class may be included the numerous temporary transfers from the medical and surgical wards of the hospital, and from other hospitals of the city. The number

of admissions from February 18, 1902, when the pavilion was opened, to September 30, 1914, was three thousand, one hundred thirty-two. Of these one thousand, six hundred seventy have been discharged to their homes recovered or improved; one thousand, one hundred thirty-five have been discharged unimproved, many of these for transfer to institutions for the insane; and two hundred and fifty-six have died.

The problem of the discharge of patients has revealed many interesting questions. With the exception of those awaiting transfer under commitment, all patients are admitted upon the voluntary basis. That they are willing to come and to stay is evidence of the subjective appreciation of need of help, even in a disordered mind. If there is resistance or discontent those responsible are requested to remove the patient, either by commitment or by a return home. Instances of this kind are relatively infrequent, but the practice is rigid, as every appearance of detention is avoided. It has further been found advisable to discharge many patients on the disappearance of active symptoms, upon the theory that the acute mental attack represents the culmination of a long period of gradually increasing nervous exhaustion. The awakening to the fact of mental incompetency arouses a state of apprehension, which is best relieved by the encouraging decision that hospital resources are no further needed. This explains the relatively short residence, and has been generally followed by continued convalescence and recovery.

A retrospect of the history and experience of this pavilion shows a gradual extension of its resources and a more liberal interpretation of the idea upon which it was established. Although it retains its function of temporary relief, there has developed a broader conception of the possibilities of successful treatment of mental cases on the same basis as of other patients in the hospital. The original thought of a department distinct from the others has been lost in the adaptation of a comprehensive organization into one coordinating institution. As years pass and new officials appear, the hospital is regarded as an established fact, and service is accepted in one department or another as a matter of routine. There is no greater hesitancy in the assumption of duty in the mental pavilion than in that for contagious diseases or in the tuberculosis sanitarium. Accessibility to the community and to the friends and families of patients has established public recognition of a special curative work, which has robbed insanity of many of its horrors, and has advanced popular knowledge of mental disturbances as manifestations of disease.

Some few attempts to utilize means of diversion and entertainment from the traditions of institutions for the insane have failed. A piano, placed upon the women's ward for a season proved an annoyance; and a billiard table upon the men's ward has provided amusement for a few, but has had little remedial value in any case. It is plainly shown that the work is that of a general hospital, and must be conducted upon the plan of the general hospital. There is no propriety in an attempt to establish a modified institution for the insane upon the grounds of a general hospital.

There is a place for a broader scientific spirit in the early study of mental diseases, or, more properly, of the mental complications of physical disease; and there may be less precipitancy in declaring insane many persons whose morbid thought and action are transient and subject to correction by rational therapeutic measures. If there be any fear on the part of general hospitals of disorganization or difficulty in providing accommodations for patients, many of whom are now of necessity improperly treated upon their wards, it may be dismissed. The question presented is not that of establishing an asylum, but rather that of the addition of suitable rooms and wards for the treatment of complicated cases, and for the general rounding out and completion of an otherwise inadequate equipment. To designate acute mental cases arising from impoverished or poisoned nervous systems as the result of general exhaustion, or arising from fever, accident, injury, shock, diseases of the kidneys, heart, lungs, blood, digestive organs, glands, or what not, as "insane," or "apparently insane," and in need of the jurisdiction of the court or the supervision of the state, is an amateur interpretation of the fundamental principles of the practice of medicine. To deal scientifically with those "distemper'd in mind" appears to be a step forward, even though, as a repetition of history, it carries us back to the broad-minded and humane spirit of our ancestors of a century and a half ago.

New York Enforces Birth Registration

Dr. Herman M. Biggs, state commissioner of health, is determined to enforce the vital statistics article of the New York health law. The district attorneys throughout the state have been supplied with lists of offending physicians, and requested to warn them that in future they "shall, for the first offense, be fined not less than $5.00 nor more than $50.00, and for each subsequent offense not less than $10.00 nor more than $100.00, or be imprisoned in the county jail not more than sixty days, or be both fined and imprisoned, at the discretion of the court," as provided by the state law.

CONDENSED MILKS AND CASEIN PREPARATIONS

Cows' Milk Is Not a Perfect Food, Notwithstanding Current Opinion—Faulty Condensed Milk Formulae

By JOHN PHILLIPS STREET, M. S., Chemist, Connecticut Agricultural Experiment Station

MILK is almost unique among animal foods in that it contains all three of the essential nutrients, protein, carbohydrates and fat. Its mineral content, while small, is remarkable in that it contains the different ingredients, possibly excepting iron, in practically the same proportion as found in the body of the young animal which the particular kind of milk is designed to feed.

It is frequently claimed that milk is a perfect food. It is true, as stated above, that it contains all the nutritive ingredients required by the body, but it contains too much protein and fat, and too little carbohydrate to be a perfect food. Its bulk likewise is too great for a perfect food, a healthy man doing moderate work requiring about four quarts daily for maintenance. Milk is also so easily absorbed that insufficient unabsorbed matter remains, and constipation usually results from its continued and excessive use. Lastly, it is by no means an inexpensive food; the four quarts necessary for a daily diet would cost from 32 to 36 cents, while many of our ordinary mixed diets cost less than two-thirds of this amount. On the other hand, milk is probably the cheapest source of animal protein, and therefore is well suited as a dietary supplement. Skimmed milk is naturally even cheaper than whole milk for this purpose, and the importance of this defatted food will be considered in a later section of this paper.

The importance of milk in the feeding of children is too well known to require any discussion at this time. Likewise its value in the diet of the sick scarcely needs emphasis in a paper addressed to the readers of The Modern Hospital.

The variability in the composition of milk, however, is perhaps not sufficiently appreciated by the average physician. Its composition varies with the breed of cow, the period of lactation and the season. Cows far along in lactation give richer milk than just after calving; and milk in summer is inferior to winter milk, in spite of the popular opinion to the contrary. Very often the entire diet of children and invalids consists of milk, and the doctor prescribing so much "milk" per day rarely knows just how much nutriment he is supplying.

Lythgoe has recently published (Jour. Ind. Eng. Chem., 6, 899) certain analyses made by him during the past six years of milk of known purity from the leading dairy breeds of cattle. The averages secured by him are shown in Table 1.

Table 1

Composition of Milk of Known Purity from Individual Cows

Breed	No. of Cows	Solids	Fat	Protein	Ash	Lactose
Jersey	36	14.75	5.65	3.46	0.72	4.94
Guernsey	28	14.60	5.23	3.73	0.75	4.84
Grade Jersey	27	13.74	4.65	3.45	0.75	4.87
Grade Guernsey	20	13.20	4.35	3.27	0.72	4.94
Grade Durham	16	13.10	4.29	3.39	0.73	4.86
Grade Ayrshire	52	12.98	4.22	3.22	0.75	4.85
Ayrshire	27	12.64	4.01	2.99	0.76	4.88
Grade Holstein	131	12.62	3.95	3.25	0.73	4.65
Dutch Belt	41	12.15	3.56	2.96	0.70	4.93
Holstein	56	11.69	3.41	2.93	0.72	4.70
All breeds	434	12.98	4.21	3.27	0.76	4.78

It will be noted that the solids ranged from 11.69 to 14.75 per cent, and the fat from 3.41 to 5.65; the lower percentages being shown by Holsteins and the higher by Jerseys. The protein varied within rather narrow limits, while the ash and lactose were remarkably constant in all the breeds.

Because of the variability in the composition of milk, because of its poor keeping qualities, and because of its liability to bacterial and bacillary contamination, manufactured milk products, in which these objections are more or less removed, have a peculiar interest to the dietitian. It is to certain of these manufactured and proprietary milk foods that I wish to refer in this paper. The proprietary infant foods, an increasingly large group, will be discussed in a subsequent paper, as will also cheese, whose value in the diabetic dietary has not been sufficiently appreciated.

CONDENSED OR EVAPORATED MILKS

These are widely used not only in the home but also in the feeding of infants and invalids. The terms "condensed" and "evaporated" as applied to milk have been rather loosely used in the past. The term "evaporated" has generally been applied to milk which had been concentrated by evaporation under reduced pressure with more or less heat, but without the addition of any cane sugar. The term "evaporated cream" was always a misnomer, as the product was similar to cream only in consistency. Legal enactments and the practice of the better class of manufacturers have caused almost a complete discontinuance of this term. "Condensed" milk, on the other hand, is popularly applied to evaporated milk to which more or less cane sugar has been added to aid in its preservation. As a matter of fact brands are found on the market where the original significance of the two terms is entirely lost, and much confusion accordingly has resulted. The Federal Committee on Food Definitions and Standards now recognizes the terms "condensed" and

"evaporated" as applied to milk as synonymous, and suggests the use of the prefixes "sweetened" or "unsweetened," as the case may be, to prevent misunderstanding.

It is obvious that the quality of a condensed milk must depend primarily upon the quality of the original milk, upon the degree of concentration and upon the skill with which this concentration is effected. If skimmed or partially skimmed milk is used as raw material the resultant product will necessarily be deficient in milk fat; a highly concentrated milk will, of course, be richer than one of less concentration made from the same original milk; excessive heat will give the product an unpleasant cooked taste, and poor methods of manufacture will produce granulation, grittiness and

TABLE 2
ANALYSES OF CONDENSED MILKS

	Water	Solids	Sucrose	Milk Solids	Ash	Protein	Lactose	Fat
Connecticut analyses.								
Condensed milk, unsweetened, maximum	75.27	31.07	.....	31.07	1.85	8.75	11.99	10.20
Contensed milk, unsweetened, minimum	68.93	24.73	.....	24.73	1.29	6.70	8.75	7.20
Condensed milk, unsweetened, average	*71.68*	*28.32*	.....	*28.32*	*1.60*	*7.67*	*10.64*	*8.41*
Condensed milk, sweetened, maximum	31.32	78.33	44.83	41.52	2.16	9.81	22.85	10.07
Condensed milk, sweetened, minimum	21.67	68.68	29.22	30.27	1.50	7.82	11.28	6.90
Condensed milk, sweetened, average	*26.36*	*73.64*	*40.20*	*33.44*	*1.82*	*8.54*	*13.98*	*9.10*
Typical analyses (Leach).								
Condensed milk, unsweetened.								
High fat	64.00	36.00	.....	36.00	1.72	11.63	10.65	12.00
Low protein	68.75	31.25	.....	31.25	1.23	7.02	13.40	9.60
Normal	*71.84*	*28.16*	.....	*28.16*	*1.55*	*8.66*	*9.35*	*8.10*
Made from skimmed milk	64.83	35.17	.....	35.17	1.70	15.37	13.90	4.20
Condensed milk, sweetened.								
High fat, high sucrose	20.83	79.17	47.85	31.32	1.80	7.95	9.57	12.00
High fat, low lactose	31.30	68.70	38.43	30.27	1.73	10.70	6.38	11.46
Low fat, high lactose	30.70	69.30	37.47	31.83	1.54	6.34	16.75	7.20
Normal	*25.71*	*74.29*	*41.92*	*32.37*	*1.29*	*8.46*	*11.97*	*10.65*
Made from skimmed milk	30.70	69.30	40.15	29.15	2.05	12.15	11.89	3.06
Made from centrifugally skimmed milk	30.94	69.06	43.18	25.88	2.46	11.78	11.55	0.09

other undesirable features. The integrity of the raw material and the skill of the manufacturer are therefore of great importance as influencing the quality of the manufactured product. The unsweetened milk is quite apt to spoil after the can has been opened. It should therefore be kept in a cold place pending use, and quite the same precautions taken for its preservation as for raw milk. Indeed, it has been suggested that manufacturers should pack such milk in cans holding only enough for a day's supply. While this would doubtless increase the cost, the suggestion possesses obvious advantages. The sweetened condensed milk keeps much better, but even this should be kept in a cold place after opening.

The sweetened and unsweetened condensed milks show striking differences in composition. The above table (No. 2) gives the maxima, minima and averages of a large number of samples analyzed in the writer's laboratory, together with certain typical analyses reported by Leach.

It will be noted that while the sweetened milks on the average contain somewhat more fat than the unsweetened, the large amount of cane sugar added necessitates a considerable dilution before use. The dilution necessary to minimize this excessive sweetness reduces the proportion of protein and fat far below that found in normal milk. The directions as to dilution generally recommended on the label, if followed, will give a product far inferior to cow's milk of good quality, and totally unsuited for some of the purposes for which condensed milks are recommended. The labels of most brands of condensed milks give directions for its use as a drink, alone or with tea or coffee, as a cooking adjunct, or as a food for infants. The writer has calculated from actual analyses just what mixtures would be obtained when the condensed product was treated exactly as directed on the label, both for general use and for infant feeding. A few of these calculations for mixtures intended for general use are shown in Table 3, the brand names being omitted, as the composition of the different brands, as a rule, varies more or less from year to year:

TABLE 3
COMPOSITION OF MIXTURES OF CONDENSED MILK AND WATER PREPARED AS DIRECTED FOR GENERAL USE

Brand	Proportion of Milk to Water	Water	Milk Solids	Sucrose	Ash	Protein	Lactose	Fat
Sweetened.								
A	1 to 4 or 5	86.6	5.5	7.9	0.3	1.5	2.0	1.7
B	1 to 3 or 4	83.1	7.5	9.4	0.4	1.9	3.0	2.2
C	1 to 4 or 5	87.2	6.8	6.0	0.3	1.5	3.4	1.6
D	1 to 1 or 2	71.6	12.7	15.7	0.6	3.4	5.1	3.6
E	1 to 4 or 5	87.2	6.4	6.4	0.4	1.5	3.0	1.5
F	1 to 3 or 4	84.7	8.8	6.5	0.4	1.8	4.5	2.1
Unsweetened.								
G	1 to 1 or 2	90.1	9.9	...	0.6	2.7	3.5	3.1
H	1 to 3	92.9	7.1	...	0.4	1.9	2.6	2.2
I	1 to 1 or 2	89.9	10.1	...	0.5	2.8	3.9	2.9
J	1 to 1 or 2	88.4	11.6	...	0.6	3.0	4.4	3.6
K	1 to 3	93.5	6.5	...	0.4	1.8	2.3	2.0

Among the sweetened milks, aside from brand D, none of the resultant mixtures would contain normal quantities of milk solids and fat, and even this brand would contain a great excess of cane sugar. The other milks would yield products containing from 5.5 to 8.8 per cent of milk solids, and from 1.5 to 2.2 per cent of fat; in other words, a mixture only a little over half as rich as milk of good quality. No brand of sweetened condensed milk can be diluted with more than 1.5 parts of water to one of milk and yield a product which equals

good fresh milk in fat content. Among the unsweetened milks brand J was the only one yielding a product even approaching good milk in richness. For cooking purposes and for a beverage, deficiency in fat may be of comparatively minor importance, although the nourishing qualities of the product are thereby reduced. In infant feeding, however, where fat is a most essential ingredient in the milk, and where cane sugar, in the opinion of many physiologists, is especially to be avoided, the composition of the milk obtained by following the manufacturer's directions is of the greatest importance. Condensed milk is largely used for feeding infants and young children and it is exceedingly important that the parents, and even physicians and nurses, should not be misled by erroneous directions. Table 4 gives calculations similar to the above for mixtures intended for infant feeding.

TABLE 4
ANALYSES OF HUMAN MILK

Days after birth of child	No. of Analyses	Total Solids	Ash	Protein	Lactose (Anhydrous)	Fat
1-3 (colostrum)	4	12.65	0.41	3.25	4.96	2.92
5-6	3	12.09	0.30	1.83	5.83	3.26
6-12	10	12.12	0.28	1.73	6.16	3.11
20-40	15	12.48	0.22	1.30	6.52	3.91
60-140	14	11.79	0.19	1.10	6.81	3.31
170 and over	10	11.44	0.18	0.94	6.78	3.20

A comparison of the calculated composition of the mixtures made for infants of different ages, according to the directions indicated, with the composition of human milk at the same age periods of the child, shows how deficient a diet, as compared with mother's milk, is furnished if the manufacturer's directions are followed. This criticism applies to every brand in the table, for in no case do the mixtures even approximate the composition of human milk in all the ingredients. Nor could this condition with the sweetened milks be remedied entirely even by the addition of cream, cod liver oil or some similar oil, and milk sugar, for there will always be an excess of cane sugar present, even when its addition is not specifically directed. The desirability of the presence of cane sugar in the diet of very young children is a matter of much controversy among

TABLE 5
COMPOSITION OF MIXTURES FOR INFANT FEEDING PREPARED AS DIRECTED

Brand and Age of Infant	Proportion of Milk to Water	Water	Milk Solids	Sucrose	Ash	Protein	Lactose	Fat
1st week								
1	½ teaspoonful milk, ¼ teaspoonful sugar, 1 ounce water	95.47	1.50	3.03	0.09	0.41	0.53	0.47
2	½ teaspoonful milk, ¼ teaspoonful sugar, 1 ounce water	95.21	1.76	3.03	0.09	0.46	0.66	0.55
3	½ teaspoonful milk, ¼ teaspoonful sugar, 1 ounce water	95.25	1.72	3.03	0.10	0.43	0.65	0.54
4	½ teaspoonful milk, ¼ teaspoonful sugar, 1 ounce water	95.19	1.78	3.03	0.10	0.48	0.66	0.54
Average		*95.28*	*1.69*	*3.03*	*0.10*	*0.45*	*0.62*	*0.52*
1st month								
5	1 to 13	94.59	2.34	3.07	0.13	0.62	0.88	0.71
6	1 to 6 or 7	96.21	3.79	....	0.18	1.02	1.41	1.18
7	1 to 13	94.92	2.96	2.12	0.13	0.56	1.63	0.64
8	1 to 14 or 16	95.61	2.18	2.21	0.12	0.53	1.03	0.50
9	1 to 14 or 16	95.48	1.98	2.54	0.11	0.49	0.78	0.60
10	1 to 14 or 16	95.30	1.95	2.75	0.12	0.50	0.75	0.58
Average		*95.35*	*2.53*	*2.13*	*0.13*	*0.62*	*1.03*	*0.70*
2 months								
5	1 to 11	93.69	2.73	3.58	0.15	0.73	1.02	0.83
6	1 to 5 or 6	95.63	4.37	....	0.21	1.18	1.62	1.36
7	1 to 11	94.07	3.46	2.47	0.15	0.66	1.90	0.75
8	1 to 12 or 14	94.99	2.49	2.52	0.14	0.60	1.18	0.57
9	1 to 12 or 14	94.82	2.28	2.90	0.12	0.57	0.90	0.69
10	1 to 12 or 14	94.63	2.22	3.15	0.13	0.57	0.86	0.66
Average		*94.64*	*2.93*	*2.43*	*0.15*	*0.72*	*1.25*	*0.81*
3 months								
5	1 to 10	93.12	2.97	3.91	0.16	0.79	1.11	0.91
7	1 to 10	93.53	3.78	2.69	0.16	0.72	2.08	0.82
9	1 to 10 or 12	93.97	2.64	3.39	0.14	0.66	1.04	0.80
10	1 to 10 or 12	93.74	2.59	3.67	0.16	0.67	0.99	0.77
Average		*93.59*	*3.00*	*3.41*	*0.15*	*0.71*	*1.31*	*0.83*
3-6 months								
8	1 to 8 or 10	92.98	3.49	3.53	0.20	0.84	1.66	0.79
6 months								
5	1 to 9	92.43	3.27	4.30	0.18	0.87	1.23	0.99
7	1 to 9	92.88	4.16	2.96	0.18	0.79	2.29	0.90
Average		*92.65*	*3.72*	*3.63*	*0.18*	*0.82*	*1.76*	*0.95*
6-12 months								
8	1 to 6 or 8	91.22	4.36	4.42	0.25	1.05	2.07	0.99
One year								
5	1 to 6	89.18	4.68	6.14	0.26	1.25	1.75	1.42
6	1 to 3	92.90	7.10	....	0.33	1.91	2.64	2.22
11	1 to 3 or 4	93.68	6.32	....	0.32	1.70	2.40	1.90
7	1 to 6	89.84	5.93	4.23	0.25	1.13	3.26	1.29
9	1 to 6 or 7	90.35	4.23	5.42	0.23	1.05	1.67	1.28
10	1 to 6 or 7	89.99	4.14	5.87	0.25	1.07	1.59	1.23
Average		*90.99*	*5.40*	*5.61*	*0.27*	*1.35*	*2.22*	*1.56*

It is well known that the composition of human milk changes greatly with the period of lactation, the first milk, the colostrum, being very rich in nitrogenous bodies and relatively deficient in milk sugar; after six months the composition becomes relatively constant. The following analyses made by Camerer and Söldner (Zeit. Biol. 36, 277) indicate these variations in composition:

physiologists, yet each of the four brands of unsweetened milk, which recommends a formula for infants one week old, directs that cane sugar shall be added, making up nearly two-thirds of the solids of the mixture. The following summary shows the average relation of these mixtures to human milk at the period specified:

RELATION OF CONDENSED MILK MIXTURE TO HUMAN MILK

Age of Child	Ash	Protein	Milk Sugar*	Fat
1 week	1/3	1/4	1/9	1/6
1 month	1/2	1/2	1/6	1/5
3 months	3/4	2/3	1/5	1/4
6 months	O. K.	O. K.	1/4	3/10
1 year	+	+	1/3	1/2

*Cane sugar present in excessive amounts in nearly every individual case.

The above data are in no way offered as a condemnation of condensed milks. They simply serve to show what exceedingly dilute products are secured when the directions of the average manufacturer are followed. Condensed milks have a distinct use in the home and in the sick room and hospital. When properly prepared they are more digestible than fresh cow's milk, a strong point in their favor. While they cannot be regarded as absolutely sterile, as the heat to which they are subjected is not necessarily high enough to kill all disease germs, they are probably more sterile than most fresh milk, and if properly kept after opening are less liable to spoilage and decomposition. As an exclusive diet for young children they cannot be recommended, because of their deficiency in fat. An unsweetened condensed milk properly diluted with water, and with cream and milk sugar added, would offer a very satisfactory substitute for human milk. The sweetened condensed milks, in the writer's opinion, are entirely unsuited for infants' use, no matter how they are manipulated.

SKIMMED MILK

Table 2 shows analyses of condensed skimmed milk both sweetened and unsweetened. If sold honestly for just what it is this product has a distinct value in the ordinary home, especially for culinary purposes. While the fat of milk is very essential in the feeding of young children or of invalids recovering from wasting diseases, the value of the milk proteins is too often overlooked or totally disregarded. These proteins are all present in skimmed milk, and it would seem that following the modern tendency towards the conservation of all natural food products, skimmed milk should assume its proper place among useful and desirable human foods and cease to be simply a food for swine.

In this connection it is interesting to note that modern physiologists maintain that the animal body deals not with intact proteins, or even with albumoses and peptones, but in all cases with the free amino acids which constitute the protein molecule. The great importance of the individual amino acid itself is therefore evident, since one amino acid may have a far different significance in its rôle in nutrition than others. For instance, Osborne and Mendel have shown that zein, a protein present in maize and destitute of the amino acid, tryptophane, is insufficient for maintenance in animals, but that if tryptophane is added to the zein diet complete maintenance is obtained. Casein, the chief protein of milk, unlike zein, contains all the amino acids except glycocoll, which it has been shown the animal can synthetize itself. It would seem, therefore, that in milk nature has supplied the proteins containing the amino acids most essential for growth, and that these milk proteins are of the greater importance in nutrition.

CASEIN PREPARATIONS

In addition to condensed skimmed milk, casein appears on the market in a number of forms. Pure casein contains approximately 53.0 per cent carbon, 7.0 hydrogen, 15.7 nitrogen, 22.7 oxygen, 0.75 sulphur and 0.85 phosphorus. Commercial casein generally contains more or less milk sugar and mineral matter which have not been completely removed. A product sold by the Casein Mfg. Co. of New York, *No. 60 Casein,* has been found by the writer to contain 81.79 per cent casein, not greatly different in this respect from *Sanatogen,* a more highly refined product, but about forty times as expensive.

The following analyses of proprietary casein preparations are quoted from Scherer:

Lactarine. Water 9.92, fat 0.04, casein 78.16, carbohydrates 7.77 and ash 3.75 per cent.

Galactogen. Made from skimmed milk by the addition of a patent preparation; its chief constituents are albumin 70, fat 3.5 to 4.5 and phosphoric acid 1.5 to 2.5 per cent.

Guttmann's Nutrient Milk Powder. Made from skimmed milk mixed with prepared carbohydrates, mainly protein-free oat meal, and a small amount of aromatics; a partial analysis shows water 7.3, albumin 20, carbohydrates 65 and fat 4 per cent.

Eulactol. Prepared by evaporating milk, according to a patented process, *in vacuo,* at a temperature not exceeding 98° F. It contains albumin 33.25, fat 46.3, carbohydrates 14.3 and ash 4.3 per cent.

Nutrium. A mixture of casein, salt and milk sugar, containing 29.1 per cent proteins.

Hutchinson refers to the following additional preparations:

Sanose. Casein 80 per cent and albumose derived from white of egg 20 per cent.

Nutrose. A sodium casein compound; and

Eucasin, a similar compound containing an ammonium salt.

Casumen. An English product, almost identical in composition with *Plasmon* (see below).

Lacto Somatose. A preparation obtained from milk proteins with 5 per cent of tannic acid in combination.

The following additional preparations have been analyzed by the writer:

Plasmon. Prepared by treatment of the curd precipitated from skimmed milk with sodium bicarbonate. The compound is kneaded in an atmosphere of carbon dioxide and reduced to a powder, which is easily soluble in warm liquids. It contains water 12.4, fat 0.4, ash 7.7, casein 71.8 and carbohydrates 7.7 per cent.

Sanatogen. A mixture of casein with about 5 per cent of sodium glycerophosphate. It contains water 10.0, casein 80.0, ash 5.6, fat 0.1 and carbohydrates 4.2 per cent. It also contains a small amount of an unidentified protein (equivalent to 0.23 per cent nitrogen), and a small amount of inorganic phosphorus in addition to the phosphorus combined as glycerophosphate.

Casoid Flour (Callard, Stewart and Watt). Water 10.1, ash 2.5, protein 85.8, fat 1.1 and carbohydrates 0.5 per cent.

Casein Flour (Lyster Bros.). Water 5.7, ash 5.8, protein 84.5, fat 3.6 and carbohydrates 0.4 per cent.

Trumilk. A milk powder containing water 3.8, ash 6.0, protein 25.7, fat 27.4 and carbohydrates 37.1 per cent.

Klim. A skimmed milk powder containing water 2.6, ash 8.1, protein 37.1, fat 2.2 and carbohydrates 50.0 per cent.

Milk Albumen. Water, 4.7, ash 22.0, protein 56.5, fat 4.3 and carbohydrates 12.5 per cent.

Dried Skimmed Milk. Water 4.4, ash 8.1, protein 32.9, fat 1.4 and carbohydrates 53.2 per cent.

These casein preparations offer to the dietitian nearly tasteless products which are highly concentrated and easy of digestion. Quoting Hutchinson:

"It is as a means of enriching the diet in proteid, rather than as sources of energy, that these preparations are specially valuable. Roughly speaking, one may say that one part of them is equal as a source of proteids to four parts of meat. Their tastelessness and solubility enables them to be added to other foods, such as soups, milk puddings, cocoa and jellies, raising greatly their nutritive value, and without the patient being able to suspect that any such addition has been made. In many cases of illness, and especially, perhaps, in fevers and diabetes, they increase very considerably our dietetic resources, and are probably destined to take an important place in the treatment of disease by feeding. They are far superior to any meat preparations as condensed forms of proteid."

The item of cost, however, is worthy of careful consideration. Some of the above named preparations are very expensive. The writer has shown, however, that an increased price by no means necessarily indicates a superior nutritive value. He found, for instance, that *No. 60 Casein*, costing from 8.5 to 10 cents per pound, was almost equally efficient in promoting growth in young rats and in maintaining body weight in adult animals as *Sanatogen*, a much over-advertised preparation, costing one dollar per 100 grams.

NEW ARMY POST HOSPITAL

The U. S. Army Medical Department Is Foremost in the World—Its Hospitals the Best

Nothing about modern military establishments has progressed more in late years than the medical branch. All military leaders recognize that sick soldiers are a hindrance, and to make armies effective the men must be kept in good health.

No military establishment in the world is more progressive in its medical department than our own. What army surgeons and our hospital corps men can do has been amply exemplified at Panama, at Vera Cruz, at Manila, and Havana. We have the best surgeons procurable and funds are liberally supplied for maintaining splendid

U. S. Army hospital at Fort Worden, Washington. Notice sun porch covered with glass.

hospitals everywhere. Only the cleanest and best men, mentally and morally, are taken into the hospital corps, and this class of men is attracted to the corps because of the better advantages offered them in this service. In the hospitals the men live much as they do at home. They have wholesome messes and cozy quarters, and the rowdyism of barrack life is absent; moreover the pay is better.

The soldiers of Europe in few instances have as good medical attention as our own soldiers have, and when it comes to hospitals in which to treat the sick and wounded no country is in advance of Uncle Sam's service. The hospital of an American military post is always the costliest, cleanest, and most inviting building in the garrison.

The illustration shows the new army post hospital at Fort Worden, Washington. Note the glass-covered and screened porches.

Fig. 1. Barre City Hospital, Barre, Vermont.

ARCHITECTURE AND EQUIPMENT OF THE BARRE CITY HOSPITAL

Small Institution in the Vermont Hills Has All "Frills" Cut Out to Allow Perfect Fireproof Construction for Safety of Patients—Equipment Simple but Complete

By EDWARD F. STEVENS, Architect, Boston

THE importance of building a hospital of fireproof material was never more appreciated than when the committee of a small country hospital, of less than twenty beds, was notified the other morning that a fire caused by spontaneous combustion had occurred in the middle of the night, resulting in the destruction of the window sash and frame of the boiler room, in which the fire started. There being no other combustible material, the fire was very easily extinguished, and no one but the superintendent and the fireman of the institution knew of its existence. Had the building committee been less wise, and the architect less insistent that sick patients should be housed in fireproof buildings *only*, there might have been one less New England hospital today.

The officials and the building committee of the Barre City Hospital, appreciating this point, although limited in funds, agreed with the architect that it was better to sacrifice some of the architectural ornamentation rather than risk the loss of human life by a non-fireproof building. To do this meant the cutting of many "corners" and the leaving off of some of the "frills," but in no case sacrificing the comfort of the patients.

Today there stands a complete city hospital, of thirty-two beds, of practically fireproof construction, which should resist for generations to come the ravages of time or the possibility of destruction by fire.

Located on one of the hills overlooking the city and taking advantage of the southeasterly slope for sunlight and air, the simple brick building with its broad brick porch bids welcome to the visitor or patient.

On the entrance level or ground floor the administration, the heating and the kitchen departments, as well as the Roentgen-ray and laboratory departments, are arranged; for, with the easterly side wholly above ground, light and air are not sacrificed.

This same Vermont hill allows the first floor to be entered on the westerly side where the ambulance door is located.

With all the general offices and utilities taken care of on the ground floor, the first and second floors are left free for the care of patients.

In planning this hospital no large wards were provided for, as it was felt that a better segregation could be obtained with smaller wards, so that on the first floor were located four three-bed wards and seven single wards; and a small maternity

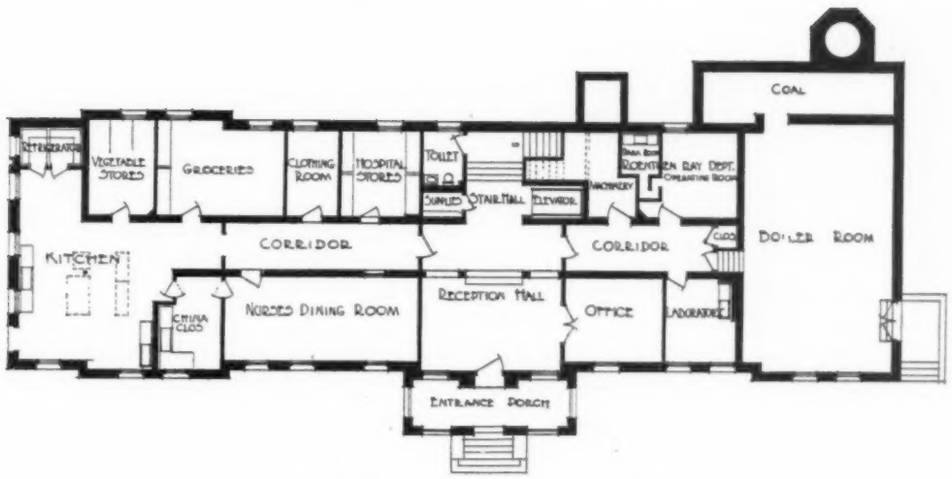


Fig. 2. Barre City Hospital. Ground floor plan.

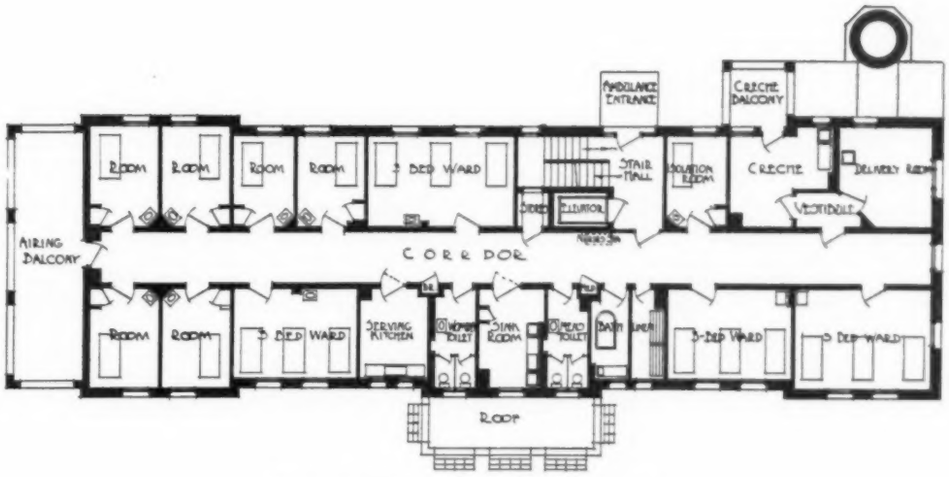


Fig. 3. Barre City Hospital. First floor plan.

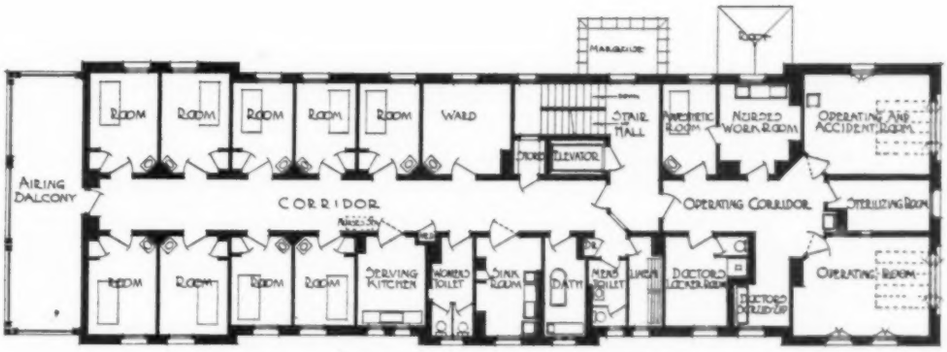


Fig. 4. Barre City Hospital. Second floor plan.

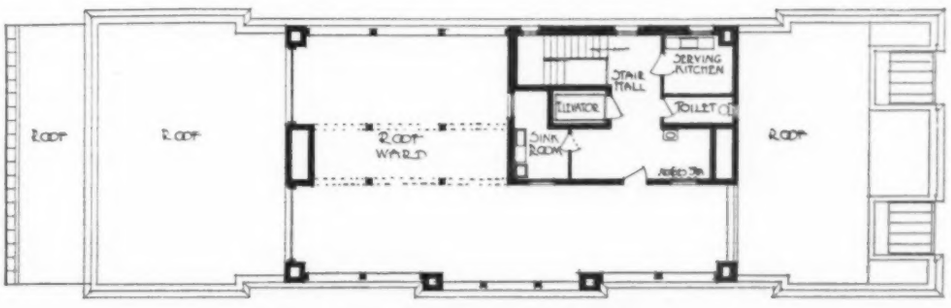


Fig. 5. Barre City Hospital. Third floor plan.

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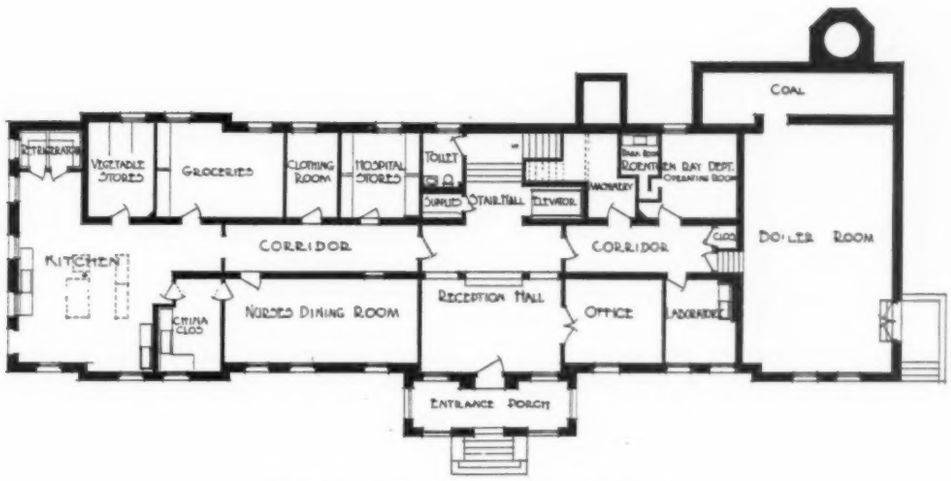

Fig. 2. Barre City Hospital. Ground floor plan.

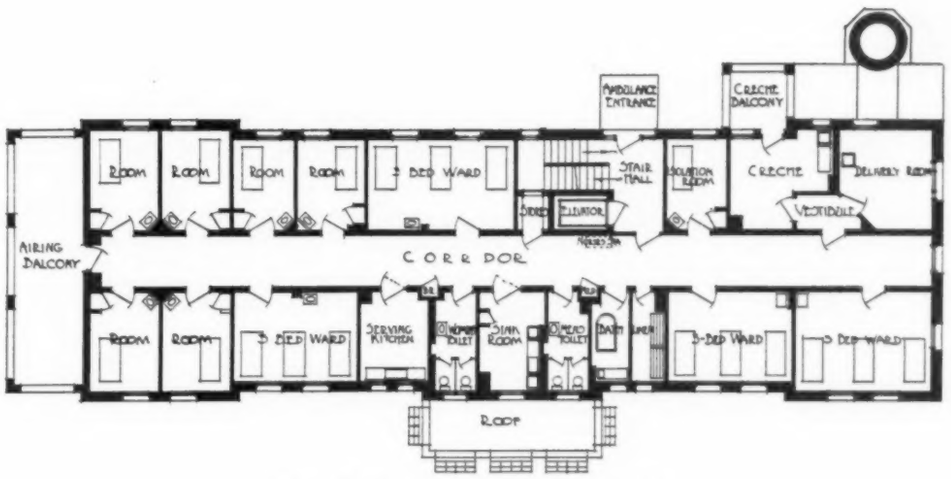

Fig. 3. Barre City Hospital. First floor plan.

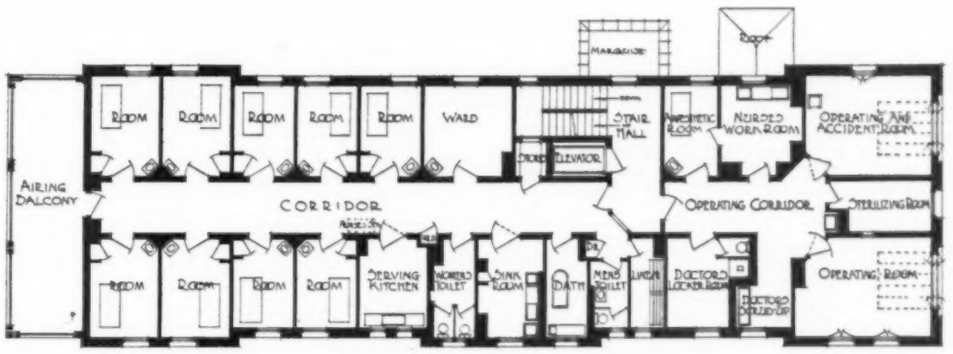

Fig. 4. Barre City Hospital. Second floor plan.

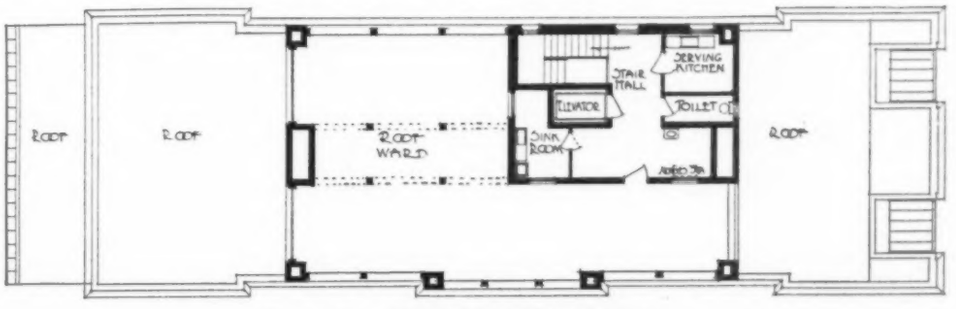

Fig. 5. Barre City Hospital. Third floor plan.

department, entirely isolated, with delivery room, creche and bathing department.

The second floor is almost wholly devoted to private patients, consisting of one four-bed children's ward and nine private wards. A complete operating department is also provided on this floor and is composed of two operating rooms, anesthetic room, nurses' work room, sterilizing room and surgeons' locker rooms, all being shut off from the patients' quarters and planned for the most efficient service.

On each floor ample serving kitchens, sink rooms, bath and toilet rooms, linen storage closets, medicine closets and nurses' stations are provided.

Large airing balconies at the south afford opportunities for patients to be wheeled into the open air, as all doors are wide enough for beds, and all beds are provided with trucks, while the elevator connects all floors.

Perhaps the most interesting feature of this thirty-two-bed hospital is the extensive roof ward, equipped with all the conveniences and accessories of indoor wards and commanding a wonderful view over the town and the adjoining hills.

The materials of construction are common brick, granite and terra-cotta, with floors of iron and concrete; the interior walls are of hollow tile, the floor finish of terrazzo, cement and linoleum; the finish is simple, the windows wide, and the coloring of the inside is cheerful and attractive.

The equipment is simple, but fulfilling every requirement of modern science.

EQUIPMENT OF BARRE CITY HOSPITAL

GROUND FLOOR.

Reception Hall:
- 2 benches.
- 4 chairs.
- 1 table.

Office:
- Safe.
- Desk.
- Table.
- 1 desk chair.
- 3 chairs.
- 1 costumer.
- Rugs.

Nurses' Dining Room:
- 18 round tables for four.
- 18 chairs.
- 1 serving table.
- Table linen.

China Closet or Serving Room:
- China.
- Glass.
- Silver.
- China cabinet.
- Refrigerator.

Kitchen:
- Range, gas.
- Broiler.
- Cook's table.
- Steam table.
- 2 chairs.
- Coffee urns.
- Dish warmer.
- Compartment steamer.
- Stock kettle.
- Cereal cooker.
- Hoods over range and kettles.
- Vegetable parer.
- Saucepan rack.

Clothing Room:
- 24 clothing bags with grille top and bottom.

Toilet:
- Paper holder.
- Towel holder for paper towels.
- Soap and glass holder.

Roentgen Ray Department:
- 1 examining table.
- 1 x-ray machine complete.
- 1 chair.
- 1 rug.

Boiler Room:
- Vacuum cleaning machine.
- Towel rack for paper towels.
- Stool.
- Small table.

Laboratory:
- 1 cabinet (special).
- 2 work tables (special) with black top.
- 2 stools.
- Bottle and tube rack.

FIRST FLOOR.

Wards A, B, C and D (4), each to have:
- 3 beds, with back rest, canopy, and irrigator hook, 4-inch wheels on head, extension legs.
- 3 hair mattresses in three parts.
- 6 pillows, feather.
- 3 bedside tables (iron).
- 3 invalid tables.
- 2 straight chairs.
- 2 rockers with arms.
- 2 foot stools.
- 3 hair pillows.

Rooms 1, 2, 3, 4, 5, 6 and 7 (7), each to have:
- 1 bed with back rest and irrigator hook, 4-inch wheels on head, extension legs.
- 1 3-part hair mattress.
- 2 feather pillows.
- 1 hair pillow.
- 1 dresser with glass.
- 1 bedside table, glass top.
- 1 invalid table.
- 1 rocker or Morris chair.
- 1 straight chair.
- 1 foot stool.
- 1 screen.
- 1 rug.
- 1 waste basket.

Creche:
- 8 bassinets with mattresses.
- 1 linen cabinet.
- Blanket warmer.
- 2 low chairs.
- 1 low table.
- Baby scales.

Delivery Room:
- 1 delivery bed, special.
- 2-part mattress for same.
- Instrument cabinet.
- Instrument table.
- Basin stand.
- Resuscitation bath.
- 2 surgeons' stools.
- 1 straight chair.
- 1 waste receptacle.
- 1 electric light stand.
- 1 instrument sterilizer.

Sink Room No. 1:
- Soiled linen holder and bags.
- Pan rack.
- Gas plate.
- Sterilizer.
- Incinerator.

Serving Kitchen No. 1:
- Steam table or gas stove.
- Refrigerator.
- Stool.
- Waste can.
- China cabinet.

Corridor:
- Nurses' desk.
- 2 chairs.
- Chart case.
- 1 wheel stretcher (Babcock).
- 1 costumer.
- 1 small table.

Airing Balcony:
- 2 tables.
- 1 couch.
- 6 rockers.

SECOND FLOOR.

Rooms 8, 9, 10, 11, 12, 14, 15, 16 and 17 (9), each to have:
- 1 bed with back rest and irrigator hook, 4-inch wheels on head, extension legs.
- 1 3-part hair mattress.
- 2 feather pillows.
- 1 hair pillow.
- 1 dresser with glass.
- 1 bedside table, glass top.
- 1 invalid table.
- 1 rocker or Morris chair.
- 1 straight chair.
- 1 foot stool.
- 1 screen.
- 1 rug.
- 1 waste basket.

Ward E, 2 Beds:
- 2 beds with back rest and irrigator stand, 4-inch wheels on head, extension legs.
- 2 3-part mattresses.
- 4 feather pillows.
- 2 hair pillows.
- 2 bedside tables, glass top.
- 2 invalid tables.
- 2 straight chairs.
- 1 rocker.
- 1 foot stool.
- 1 screen.
- 1 rug.
- 1 waste basket.

Serving Kitchen No. 2:
- Steam table or gas stove.
- Refrigerator.
- Stool.
- Waste can.
- China cabinet.

Sink Room No. 2:
- Soiled linen holder and bags.
- Gas plate.
- Sterilizer.
- Incinerator.
- Pan rack.

Bath Room:
- 1 chair.

Corridor:
- 1 nurses' desk.
- 2 chairs.
- Chart case.
- 1 small table.

OPERATING SUITE.

Anesthetic Room:
- 1 wheel stretcher.
- 1 surgeons' stool.
- 1 anesthetist stand.
- 1 metal chair.

Nurses' Work Room:
- 2 metal cabinets to measure.
- 1 metal table, 24x60 inches.
- 2 wood stools.

Operating and Accident Room:
- 1 operating table.
- 2 plain instrument tables.
- 1 wall solution stand.
- 1 irrigator stand.
- 3 surgeons' stools (1 high).
- 2 foot stools.
- 1 Mayo instrument tray.
- 2 waste receptacles.
- 1 electric light stand.
- 1 clock.
- 1 anesthetist stand.

Operating Room No. 1:
- 1 operating table.
- 2 plain instrument tables.
- 1 wall solution stand.
- 1 irrigator stand.
- 3 surgeons' stands (1 high).
- 2 foot stools.
- 1 Mayo instrument tray.
- 2 waste receptacles.
- 1 electric light stand.
- 1 clock.
- 1 anesthetist stand.

Sterilizing Room:
- 1 dressing sterilizer, 20x36.
- 1 utensil sterilizer, 20x24x20.
- 1 instrument and glove sterilizer, 10x12x24.
- 1 still and water sterilizer.
- 1 table.
- 1 metal case for dressings.

Corridor:
- Instrument case.

Doctor's Scrub-up:
- 2 soap dispensers.
- Shelf for supplies.

Doctors' Locker Room:
- 6 lockers.
- 1 table with drawers.
- 2 chairs.
- 1 costumer.
- 1 rug.

Airing Balcony:
- 2 tables.
- 1 couch.
- 6 rockers.

THIRD FLOOR.

Serving Kitchen:
- Gas stove.
- Refrigerator.
- China cabinet.

Sink Room:
- 1 soiled linen holder and bags.
- 1 gas plate.
- Pan rack.

Corridor:
- Nurses' desk.
- Chart holder.
- Linen cabinet.
- 2 chairs.

Roof Ward:
- 6 small tables.
- 6 rockers.
- 4 wicker couches.

IN GENERAL.
- Screens to all windows.
- Screens to airing balconies.
- Weather strips to all windows.
- Shades to all windows.
- Curtains to patients' rooms and offices.
- Lighting fixtures.
- China.
- Silver and glass.
- Linen.

MEDICAL LIBRARIES FOR MODERN HOSPITALS

It Is Necessary That Medical Staff Members, Interns, Nurses and Administrators Shall Have Available the Latest Current Literature—The Librarian Is Most Important—Methods of Operation

By GRACE WHITING MYERS, Librarian, Treadwell Library, Massachusetts General Hospital

IT is an interesting fact that the oldest medical library in this country is a hospital library. [1]It is at the Pennsylvania Hospital in Philadelphia and was established in 1763, primarily for the use of students, who were at that time required to pay each year "six pistoles as a gratuity for that privilege." This sum amounted to between 15 and 20 dollars. For 130 years this library was active in the life of the hospital, but since 1893 it has acquired few books, though it continues a subscriber to some 60 periodicals. Resting upon its laurels, it remains a valuable possession of the hospital, containing as it does one of the most interesting collections of old books on medicine and allied sciences in the United States. Its usefulness probably waned with the growth and activity of the large Library of the College of Physicians of Philadelphia.

Hospital medical libraries of any size are very few, either in this country or abroad. Judging from published statistics, it is safe to assume that there are not more than twenty in the world; eleven of these are in the United States and four in or near Boston. The largest and probably the best known is that at the Johns Hopkins Hospital, Baltimore. This contains 14,000 volumes and has an average daily attendance of 100 or more, serving the needs of the medical school as well as the hospital. The Treadwell Library of the Massachusetts General Hospital stands next in importance. It contains something over 9,000 volumes and serves the special needs of about 150 doctors. During the months when the medical schools are in session it is open to such students as are attending hospital clinics. In connection with the library are the clinical records, also under charge of the librarian, where much valuable matter is available for study. This serves to illustrate one of the strong arguments in favor of a hospital library, especially in the teaching hospitals. Institutions all over the country are appreciating more and more the value of their clinical records, and housed in close connection with a working medical library (even if the latter be small) they furnish the student with material not to be found elsewhere.

A medical library in a hospital is not a luxury, but a necessity. It is needed by the administration, by the visiting staff, by the resident staff, and by the nurses, as well as by students attending clinics. Each one of this army of professional people is working toward two great objects—the alleviation of suffering, and far beyond that, the prevention of disease. Medical science is making tremendous strides all along the line. Once the hospital had its hands full with the relief of pain either by doses of medicine, or by agonizing surgery (quite as agonizing to the surgeon as to the patient). The discovery of ether was the first great step forward, asepsis was the second, the x-ray was a third. And now medical science is searching deep into the mysteries of cause, that it may discover the means of prevention. The hospital laboratory teems with investigations and experiments. The staff has expanded, and with the aid of the social worker no longer dismisses a patient at the threshold of the hospital, but follows him home and to his work, with the result that conditions in both are daily improving. The hospital is a live element in the community.

And here is the opportunity of the hospital library. These men and women must study constantly, and along every line they need the assistance of books and of the librarian who keeps abreast of the times and can give "first aid" in all emergencies. The general libraries are doing a great work, but the special libraries are also doing a great work, and in an ever broadening field.

The administration staff of a hospital must keep itself informed upon all matters pertaining to construction and management, upon new apparatus of all sorts useful in its various departments, upon training school matters, upon the government of employees, upon the purchase of supplies, and upon innumerable matters of detail. The physicians and surgeons of the hospital staff need the literature of the day in all branches of medicine and surgery, and they need it while they are among patients. Students attending clinics at the large hospitals find many spare half-hours to spend in the library, where they may look up the bibliography upon special diseases which they are appointed to study. If it is even fairly equipped with good working material they may, at least, learn how to use it.

Nurses also, many of them today college graduates, ought to be accorded as much privilege as

[1]See Early Medical Libraries in America, by F. R. Packard, M. D. Medical Library and History Journal, V, 96.

possible in the use of so valuable an accessory to their work. With examinations to pass, and occasional theses to write, they greatly need books.

The hospital library should be in a central location, reached easily from all quarters, and it should be very much alive. It should not be allowed to be a mere collection. It can only in rare cases become a large library, usually for lack of room and funds. The medical libraries outside of institutions are the great storehouses of literature, while the hospital seeks to have a purely working library with its comparatively small collection of well-selected books, periodicals, government documents, reprints and such other matter as it is able to acquire, in order to serve quickly those who make use of it.

Periodical literature is most valuable, and this should be made easily available to readers through the librarian's familiarity with it, and with the great indexes of medical literature, viz., the Index Catalogue of the Surgeon General's Library, the Index Medicus, the Index of Current Medical Literature published every six months by the American Medical Association, and the International Abstract of Surgery.

In order to meet such demands as these, the library must have its material well classified, with a good catalogue, easy access to shelves, good filing of unbound and uncatalogued matter, and bulletins.

The proper classification to use is always a difficult question to settle. For a medical library, that of the College of Physicians of Philadelphia is undoubtedly the best. This was published complete in Vol. 1, of the Bulletin of the Association of Medical Librarians, in 1902. The classification of the Library of Congress is also excellent. The Dewey system, which in its expansiveness is well adapted for a general library, is at present very deficient on the subject of medicine and surgery. Used in connection with the amplification of its numbers contained in the Bibliographica Medica (a French Index Medicus published from 1900-1902), it is much more available; but even with this help it does not meet the demands of a science which is making such rapid strides. Some libraries have made classifications of their own which have proved most satisfactory. But with the tendency of the day towards standardization, it seems a pity that medical libraries cannot adopt a universal system.

As a means of making the library a real mainspring in hospital life, the following practical points, well tested by long use, are offered:

A staff of hospital workers is like one big family, and none but the librarian realizes how they all center around the library as the bureau of information upon all medical topics, and—many *un*-medical ones. Attention should be paid to the collecting of all matter relating in any way to the history of the individual institution. Lists of all publications by members of the staff should be kept, and reprints of periodical articles by them obtained and catalogued. Reviews of their books should be noted, and references kept. Topics of current interest should be brought to notice by means of bulletins posted in a conspicuous place, and kept from week to week with references culled from the best periodicals, English, French, and German. These are of value to all branches of the hospital staff, effort being made by the librarian to keep in touch with any personal specialties. If space is available files of hospital annual reports should be collected, particularly those of local hospitals, and the larger institutions of the country. The McLean Hospital at Waverley, Mass., owns a valuable collection of reports of institutions for the insane, some dating back to 1790.

The care of all this matter is a topic in itself and can be only briefly touched upon here. Some libraries bind reprints, grouping them together either by author or by subject. Others file them singly in pamphlet boxes, or in vertical files. The latter is probably the most satisfactory, considered from a general standpoint. Pasteboard boxes, absolutely dust-proof, made to stand on end, with cover opening out—the hinge of the cover reinforced by a strip of linen pasted inside—make a cheap and very satisfactory filing case. Ordered in quantity from any box factory, they cost but a few cents apiece. If space allows, and reprints can be obtained in duplicate, the filing of one under author and the other under subject is a very satisfactory method, especially where time for cataloguing is limited, as it obviates the necessity for this, both groups being filed alphabetically and boxes plainly labeled.

There are various methods of filing hospital reports, which may also be kept in the pasteboard boxes above mentioned. Some libraries arrange them by states, some by cities and others alphabetically according to the name of the hospital. An arrangement first by state, second by cities in the state, and third alphabetically by name of hospital in the city has proved a good method in the Treadwell Library.

A dictionary catalogue containing both author and subject cards is the best for general use, and the Index Catalogue of the Surgeon General's Library is universally accepted as the finest example of medical subject classification. If the late Dr. John S. Billings had done nothing else, this index would be a monument to his memory. A saving

of time may be accomplished by buying Library of Congress cards. These may be obtained for medical books and for many of the government documents dealing with medical subjects. "The Indexers," of Chicago, also furnish cards cataloguing original articles in several of the important periodicals. The government bulletins and reprints issued by the Public Health Service, the Hygienic Laboratory, the Bureau of Animal Industry, and a number of those by the Department of Agriculture are very valuable and often in demand. They may be preserved after the manner of reprints and arranged according to numbers.

Collections of portraits of men of the profession will be found interesting, also reproductions of famous old pictures dealing with medical subjects, such as have been issued from time to time, by the Münchener Medizinische Wochenschrift and the Deutsche Medizinische Wochenschrift, and at long intervals by other journals. An occasional exhibit of such material attracts attention and stimulates the life of the library. The Boston Medical Library has made a point of cataloguing portraits (including paintings and photographs) wherever they appear, not only in its own library but elsewhere.

Readers should be allowed easy access to all material, but should not be allowed to return books to the shelves, for this often occasions serious temporary loss through misplacement. There must be rules, but let them be few and very much to the point.

Hospital superintendents, under stress of multifarious duties, are too prone to undervalue the medical library within the walls of their buildings. It is hoped that these few suggestions may awaken interest in the subject and help to hasten the day when the medical library shall be regarded as of quite as much importance to the hospital as the laboratory, or any other accessory department.

DISEASE AMONG GARMENT WORKERS

Report of the Government Public Health Service Shows Only Two Per Cent of Workers Free From Disease or Defects

An instructive report of an investigation of the health of garment workers has just been made by the U. S. Public Health Service, which should be read by health workers in all parts of the country and in all branches of the service.

For the purposes of the investigation 3,000 garment workers volunteered for a physical examination; 2,000 males and 1,000 females. Only about two per cent of the total number examined were found free from defect or disease, there being recorded 13,367 defects of all kinds, of which 9,451 were in males, 3,916 in females, or an average of 4.36 defects and diseases to each individual examined. While not all of these were serious defects, many of the conditions noted exercised a deleterious effect upon the individual. An interesting feature of the report is that there were discovered no vocational diseases peculiar to the garment trades, but this sedentary industry was shown to intensify the bad effects upon health and efficiency of certain defects and diseases.

Among males the rate of prevalence of tuberculosis was found to be ten times that in the United States army, and three times the army rate among females. The disease was most prevalent among the lowest paid class of workers.

Apart from tuberculosis, the most common defects and diseases noted among the garment workers were defective vision, 69 per cent; faulty posture, 50 per cent of males; chronic nose and throat affections, 26.2 per cent; defective teeth, 26 per cent; pyorrhea alveolaris, 20 per cent; weak and flat feet, 26 per cent; chronic constipation, 23.7 per cent; hypertrophied tonsils, 15.3 per cent; defective hearing, 10 per cent, and nervous affections, 7.75 per cent. Only 11½ per cent of those with subnormal eyesight wore glasses, and but 2.35 per cent of these had glasses which fully corrected the defect.

The report shows that faulty postures were very common among the garment workers. It is interesting to learn that the previous military training received by many of the foreign-born garment workers exercised a marked effect in preventing the development of poor postural habits.

The conclusion reached by the investigators is "that a large part of the defects and diseases of garment workers arise from ignorance or neglect of personal hygiene. A proper regard of these principles on the part of the workers would go far in nullifying the bad effects of the sedentary indoor occupation upon the health." In this connection the recommendation is made that the education of the workers in personal hygiene, especially the correction of visual defects, the formation of correct postural habits and attention to oral hygiene, will do much to correct this condition. It may be added that much effective work along these lines has already been done by the Joint Board of Sanitary Control, whose activities were described in a previous number of the *Bulletin*. The report points out the necessity for better instruction of school children in personal hygiene and the necessity for their postural training is insisted upon.

The Power of Publicity

One of the speakers at the recent Rochester convention of the National Public Health Association paid the following remarkable tribute to "printers' ink," as a factor in the prevention and cure of disease:

"Printers' ink should be included in the pharmacopeia. Wisely used, it prevents tuberculosis and builds hospitals to cure it. Thousands of babies are saved every year by its educational force. It is the only universal agency for the treatment of diseases in the community at large. You may cure the individual in the sickroom; you must treat the community through the newspapers. As soon as you begin to use print for any public or educational purpose, your opponents will dub you an 'agitator.' But it's a good thing to be. Every advertiser is an agitator, whether he agitates the public mind in favor of pickles or public health. Don't let the term bother you. It's really a compliment. Use printers' ink in large quantities, and don't be afraid to pay for it."

The MODERN HOSPITAL

Editorial Office . . . . . Tower Building, Chicago
Business Office . . . Metropolitan Building, St. Louis

EDITORS.

Henry M. Hurd . . . . . Fidelity Building, Baltimore
Frederic A. Washburn . Mass. General Hospital, Boston
Winford H. Smith . . Johns Hopkins Hospital, Baltimore
S. S. Goldwater . . . . Mt. Sinai Hospital, New York
W. L. Babcock . . . . . Grace Hospital, Detroit
John A. Hornsby . . . . . Tower Building, Chicago

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Contributors, subscribers, and readers will find important information on advertising page 34.

Kansas City's New Health Regime

A year or more ago THE MODERN HOSPITAL had occasion to criticise somewhat severely what it conceived to be political interference with the administration of the Kansas City General Hospital and with that city's care of its dependent sick.

It seems now that Kansas City and its officials were big enough to take in a kindly spirit the attitude and strictures of THE MODERN HOSPITAL, and it now gives us very great pleasure to record a year of phenomenal progress in Kansas City, and the culmination of plans that promise to place that city in the very forefront in all those things that interpret themselves into terms of health progress.

Several months ago Mayor Henry L. Jost appointed a Hospital and Health Board made up of Mr. Thomas M. Finn, chairman, and Messrs. Baylis Steele and John F. Wiedemann. These men were told that they had nothing to do with politics and that they were to reorganize the public health activities of the city. They sent for Dr. Paul Paquin, one of the best trained public health men in the country, and asked him to come to Kansas City as director and executive officer. Only one condition was exacted by Dr. Paquin, namely, that he was to employ whomsoever he pleased and let out any present members of the service who were not doing their duty. The board cheerfully agreed and Dr. Paquin was installed. Then the board brought in another non-resident trained man in the person of Dr. W. H. Phipps as Food and Dairy Inspector, and still another, Dr. J. A. Borron, as Superintendent of Sanitation.

The city gave the board $365,000 a year in the budget, and Mayor Jost added another $50,000 out of an emergency fund under his control.

The installation of the new director was celebrated as "clean-up" week, and more than $100,000 worth of work was done, all paid for by the people whose premises were cleaned up. A few thousand dollars came out of the board's funds where individuals could not be expected to pay, such as alley cleaning and premises in one very poor quarter.

Since then visiting nurses have been set to work, a sanitary corps, and many new, trained heads of departments in the hospitals.

Now a school examination system has been created, and doctors and nurses are going over all school children before they are admitted; where disease or defects are found the children are sent home and are immediately followed there by physicians and nurses. Specialists of all sorts are employed, oculists, dentists, nose and throat specialists, skin specialists, orthopedists, etc., and, in short, Kansas City is taking a leading place in health progress.

The people of Kansas City are giving Mayor Jost a large measure of credit for all this splendid work, and the active leader is President Finn and the inspiration is his director, Dr. Paul Paquin.

The Cost of a New Hospital

It is proposed to build a municipal hospital for Jacksonville, Florida. There are privately owned and semi-public hospitals there now, and the city has been paying one of the latter at the rate of $2.04^1/_3$ per day for each of its indigent patients, the average number of these patients per day last year being 36, with a total cost to the city of $26,852.37. We have nothing to say about these figures, excepting that if the hospital has been giving Jacksonville's dependent sick competent care, the amount paid was probably not greater than the actual cost.

But some of those who are working for a new hospital have made some figures to show what a 100-bed new hospital would cost, for construction, and for subsequent operation, and these figures must be so misleading to the people of Jacksonville that THE MODERN HOSPITAL feels that it is in duty bound to challenge them, not only in the interest of the people of Jacksonville, but for the good of higher hospital service everywhere.

Dr. M. B. Herlong, one of the physicians of the city, seems to have made the figures, and they are published in detail in the Jacksonville *Daily Times-Union*. Here are Dr. Herlong's estimates:

Capacity of proposed hospital, 100 bed patients and 100 outdoor clinic patients:

Cost of proposed city hospital, four stories and basement, fireproof	$50,000.00
Equipment and furnishings complete	10,500.00
Maintenance for one year, full capacity	24,000.00
Cost per patient (bed) per day in proposed hospital	.67

The cost of 67 cents per bed patient per day covers all cost on 100 outdoor clinic patients per day, and this is making no allowance for the tremendous quantities of farm products that can be produced on the city prison farm of 640 acres, which would probably reduce the figure to 50 cents per patient per day.

MONTHLY EXPENSES

According to Dr. Herlong the following figures show what the monthly expenses of the proposed city hospital would be:

One superintendent	$ 75.00
One superintendent of nurses	50.00
One night supervisor	50.00
Four orderlies	80.00
One chief cook	25.00
One druggist	50.00
One janitor assistant	20.00
Groceries for attaches	250.00
Laundry	45.00
Gasoline	50.00
Total	$ 695.00
One assistant cook	$ 20.00
Three interns	15.00
One elevator man	20.00
Twelve nurses	60.00
One ambulance driver	40.00
One janitor	50.00
Groceries for 100 patients	810.00
Drugs and supplies	200.00
Fuel	75.00
Gas for plates	15.00
Total	$1,305.00

Grand total cost per month to operate hospital, full capacity, $2,000. With this hospital the city could then treat 100 bed patients every day in the year and 100 outdoor clinic patients also for a total cost of $24,000.

Of course these figures are ridiculous. Such a building, fireproof in construction (and Jacksonville would surely not think of anything else), and without one dollar spent on ornamentation, could not be built for less than $150,000, and even this amount would contemplate only the cheapest kind of plumbing, fixtures, floors, doors and windows, on which repairs would have to commence within two years. Jacksonville would be better off financially in five years if it spent $200,000 on such a hospital.

A 100-bed hospital cannot be equipped for less than $200 per patient, or a total of $20,000.

The raw food alone for 100 patients, including the necessary help, will cost certainly $0.50 per patient per day; the other expenses, including administration, medical and surgical supplies, and even the most meager scientific work, such as pathology, the x-ray and the operating rooms, cannot possibly cost less than $0.75, and Jacksonville cannot afford to operate as poor an equipment as this amount will pay for.

Dr. Herlong proposes to run the laundry for this hospital for $45.00 per month. As a matter of fact, the lowest possible amount of laundry allowable in a hospital is at the rate of 15 pieces per day per patient, or a total of 1,500 pieces; let us take off 50 per cent, assuming a more economical administration than has ever been accomplished in any hospital yet, and put the total amount of laundry at 1,000 pieces. The Pullman car company, under the most rigid business system ever practiced, has been able to launder its simple supply made up of sheets, pillow slips and towels, for $0.56 per hundred; and it is possible, but hardly probable, that there may be a 100-bed hospital in this country that does its work as cheaply; but let us say $0.50 per hundred, to give Dr. Herlong's proposed administration again the benefit of an assumption of superexcellence; that would be $5.00 per day or $150.00 per month, instead of $45.00, or a total of $1,800 per year.

It is useless to discuss labor figures, because these are variable with every locality.

Dr. Herlong proposes to have certain private rooms for pay patients. There is no question but that pay patients help to lower deficits, but it is very highly problematical whether pay patients would patronize a hospital whose administration was predicated on an annual expenditure of $24,000 for a 100-bed hospital.

We certainly hope that Jacksonville will get its 100-bed municipal hospital, because every city should care for its dependent sick in its own institution; but we also hope that Jacksonville will not try to reach *down* to the ideals of those who are now asking for such an institution.

Hospitals and the Public Health

All over this country, especially in the cities and towns, public health movements are beginning to spring up. Municipal health officers are sometimes taking the initiative, elsewhere state officials are the moving spirits, and again that most active and energetic national force, the Public Health Service of the government.

Meetings and get-togethers of all sorts are being held; conferences, either general or concerning some special problem, are going on. Every nook and corner of the country seems to be inoculated with a spirit of health progress.

What are the hospital administrators and trustees doing about these movements? Are they active and taking part and lending their influence to make them profitable and educational? Or are they sitting within their own walls feeling

that their problem is one within the hospital and nowhere else?

As a matter of fact there are very few well trained public health officers in the country; a good many of them have come into office as the result of political action on the part of the public, or of some new party which has seen the great need of a more active concern for the public health than their former officers had developed. Some of these new health agencies are volunteers, come into the field imbued with the spirit of the time, but possessing no other qualifications for leadership.

But however inspired, or by whom initiated, these movements will be fruitful or the reverse in proportion as there is wise, trained guidance and advice at hand. Mere enthusiasm is not sufficient to qualify one for leadership; there must be method and precision of movement based on some fundamental principles that have been the heritage of those trained in the work—that have been learned in the hard school of personal experience and in the actual doing of the things needed to be done.

Probably no one in any community in this country knows as much about the approaches to the problems of the public health as the superintendents of the hospitals, and those few trustees who have not only loaned the use of their names but have given long years of actual service to their institutions.

Public health problems out in the community do not differ from hospital problems, excepting in their details. If a problem at issue concerns prevention of disease, who knows more about that than the hospital workers? If it is the examination of school children and the correction of handicaps to progress in their school work by reason of poor eyesight, bad teeth, discharging ears, or nose or throat imperfections, who is better able to advise about the details of such work than the experienced hospital worker?

If it is a question of garbage disposal, smoke elimination, pure water, housing conditions of the poor, who knows more about those things than the man or woman who is receiving into his or her institution almost hourly members of the community who are victims of bad conditions in these respects, and who has to nurse them back to health again?

In other words, it is the purpose in this writing to urge the hospital people to take an active and aggressive interest in every problem and every movement in their several communities that have to do with the health and physical, mental and moral welfare of the people.

Indeed it seems to us that the very well springs of these community health movements should be in the hospital, and that initiative should start there. Instead of that, there are many communities where the official health agents are compelled to spend a great measure of their time and energy keeping the hospitals themselves up to anything like tolerable efficiency.

Fire! Fire!! Fire!!!

We have not had anything to say for several months now about fire protection for patients in hospitals.

Winter is now coming on and the opportunities for fire to break out are to be greatly increased. What are you doing about this in your hospital? You can at least clean out old rubbish from the closets and storage places, see that your chemical extinguishers are recharged and in working order, have your engineer or electrician trace out all exposed wiring to see that its insulation is good, get the flower boxes and other obstacles off your outside fire stairs, and if you have put up temporary gates on the fire balconies to allow the patients out there during the summer, you can get these down. You can see that your standpipe valves are workable; you can see that your hose is not rotted and about to fall to pieces. You can test out your alarm system in the hospital buildings, see whether the key to the fire call in the street is in its place at the telephone station.

In other words, you can take the proper precautions to provide for the greater fire hazard that comes with cold weather.

Switzerland to Care for 2,500 Tuberculous British, French and German Prisoners

England, France and Germany have recently entered into an agreement with Switzerland in accordance with which tuberculous English prisoners will be sent to various places in Oberland, the French to Leysin and the Germans to St. Moritz. The prisoners will receive care at sanatoriums under Swiss guard at the expense of the countries holding them captives.

Graduate Nurses' Association of Ontario Adopts Eligibility Clause

At a recent meeting of the association the following eligibility clause for membership was incorporated in their by-laws: "Nurses graduating from a training school in connection with a hospital with a daily average of twenty-five occupied beds, and giving its pupils not less than a two-years' training in general nursing, or giving an equivalent training in one or more hospitals, and whose curriculum has been approved by the board of directors of the association, shall be eligible for membership."

A new hospital for the Union Printers' Home at Colorado Springs, Colo., is planned by the board of trustees.

ROUTINE TECHNIC FOR HANDLING SPECIMENS

A Number of Well Administered Hospitals Tell How They Gather, Protect and Analyze Urine and Operating Room Tissues—What Is Done With the Records

A SYMPOSIUM

Some weeks ago a reader of THE MODERN HOSPITAL sent in the following query, with the request that it be answered in the "Queries and Answers" column:

"To the Editor of THE MODERN HOSPITAL:

"What is the best method of collecting and sending urines from the wards to the laboratory for examination?"

It was believed that this particular piece of technic is one of the most important that hospitals have to deal with, not only to administrative officers, but to the medical staff members; and that from the standpoint of the patient's welfare it is quite as serious as the surgical technic in the operating rooms, to which so much attention is paid. It was thought, therefore, that those interested would be better served if the hospitals themselves were permitted to answer the question, rather than that it should come from a single person.

For this reason, letters were sent to a number of the hospitals, and their replies, which follow, should be a very excellent guide to all hospitals.

COLUMBIA HOSPITAL FOR WOMEN, WASHINGTON, D. C.

DR. J. O. SKINNER, Supt.

On the gynecologic side. A specimen of voided urine is collected as soon as possible after the patient has been admitted. This is sent to the laboratory for routine examination, with a form printed expressly for this purpose, on which the pathologist makes his memorandum and immediately transfers the result to the form, as a part of the patient's chart. Then amount for twenty-four hours is started and noted on the chart. On the morning of the operation a catheterized specimen of urine, collected in a sterile vessel, is sent to the laboratory and the result reported on the chart before the administration of an anesthetic. In case of an emergency a catheterized specimen is immediately collected and examined before anesthetic. The first specimen of urine, after operation—voided or catheterized—is collected, measured and examined, and then specimens for three consecutive mornings immediately following operations. As many specimens are examined as the visiting physician requires.

On the maternity side. A specimen of voided urine is collected as soon as the patient has been admitted and a routine examination is required. Then amount for twenty-four hours is collected and a portion of it is sent to the laboratory for examination—routine and urea. Thereafter twenty-four-hour amount is collected and examined for routine and urea every ten days before the patient is delivered. In cases where patients are admitted in labor and are delivered before a specimen is able to be collected, the first specimen after delivery is collected, measured and sent for routine examination.

For the whole hospital. The specimens of urine collected are placed by the nurse at a designated spot for this purpose, and the orderly carries them to the laboratory. The senior nurse on each ward is held responsible for their proper disposal.

CITY HOSPITAL, ST. LOUIS, MO.

F. E. CHAPMAN, Supt.

There is, in the operating room, a representative of the resident pathologist at all times. Specimen to be examined is immediately placed in a four percent solution of formalin, and taken direct to the pathological building.

In the operating suite there is also a tank of carbon dioxide, with a freezing microtome, microscope and other necessary equipment to do pathological work. If immediate examination is indicated, such examinations are made in the operating room suite.

All wards are equipped with ward laboratories, with at least one laboratory for not more than two wards. As a routine, specimens of urine are taken from every patient admitted to the institution. Orderlies are detailed from various wards to collect these specimens and take them to the laboratory assigned to the ward in which they originate. These examinations are then made by the intern in charge of the patient, under the supervision of the senior physician in charge of the service, a routine report is signed by the man making the examination and incorporated in the history of the patient. These ward laboratories are also equipped for making blood counts, stomach analyses, in fact, all routine laboratory work. Every procedure is noted on a blank provided for the purpose, and that blank incorporated in the history of the patient. If for any reason a confirmation of this examination is desired, specimen is submitted to the resident bacteriologist or pathologist for same.

Specimens of tissue, special blood examinations, examinations of fecal contents, etc., are taken to the bacteriologist by the intern in charge of the patient. Routine report is made in all instances and incorporated as a part of the history.

WESLEY MEMORIAL HOSPITAL, CHICAGO, ILL.

E. S. GILMORE, Supt.

Our manner of handling urine and tissue specimens is this: We have urine bottles holding one liter for single specimens. These bottles are sterilized and placed in the wards by orderlies. Immediately after arrival of the patient a single specimen of urine is sent to the laboratory. At the end of twenty-four hours a twenty-four-hour specimen is sent. This is routine in all cases except in minor operations and nose and throat operations. Thereafter urine specimens are sent to the laboratory only by order of the attending physician. All specimens, except the first, must be in the laboratory by seven a. m. For the twenty-four-hour specimen from thirty to forty grains of boric acid are added for preservation purposes. Each specimen is accompanied by a printed slip giving the following information:

Attending physician's name
Intern
Patient
Room No.
Time obtained

with a space for request for special examination, should any be desired. The nurse records on the history sheet of the patient each urination, time and quantity. The laboratory findings are filed each afternoon with the chart sheets of the patient and thus become a part of the history.

It is the duty of the senior intern to take tissue specimens to the laboratory. He must fill out and leave with the specimen a card, giving the following data

Patient's name
Room No.
Case No.
Laboratory No.
Attending physician's name
Clinical diagnosis

Anatomical location of the specimen

And a short history for the benefit of the pathologist, giving occupation, sex, number of children, chief symptoms and previous operations.

A pathologist's report is made in duplicate, the original fastened to the patient's history sheet and the duplicate is retained in the laboratory.

JOHNS HOPKINS HOSPITAL, BALTIMORE, MD.

KARL H. VAN NORMAN, Asst. Supt.

The collection of all urine specimens is under the strict supervision of the head nurse in each ward. In the female wards the collections are made by the nurses and in the male wards by the orderlies. For single specimens we have had made a special urine bottle, somewhat similar in shape to a milk bottle, the capacity being ten ounces. There is a space on the outside of this bottle where the glass is ground to a sufficient extent to write on it the name of the patient and the ward. The duty of the nurse or orderly obtaining the specimen is merely to collect it and hand it at once to the nurse in charge, who sees that it is placed in the proper specimen bottle and labeled. Twenty-four-hour specimens are collected in large containers, sufficient in capacity to hold the total specimen. These containers are labeled just prior to beginning the collection of the specimen, the label having the name of the patient and the ward, and the day and hour at which the collection of the specimen is begun. These containers are left in the ward lavatories and, beside each one, pasted on the wall, is a paper slip on which the orderly or nurse (depending on male or female ward) notes the time and amount of each specimen voided. Each specimen voided, after being noted on this slip, is emptied into the large container. If specimens require immediate examination, they are sent to the laboratories at once; all other specimens are sent in the mornings and all specimens are sent to the different laboratories by the orderlies. Routine urine examinations are made by the house officers in the central clinical laboratory, and each house officer is responsible for these routine examinations on all the patients of which he has charge. Special urine examinations are made in the medical, bacteriological or chemical laboratories, under the direction of the physicians in charge of those laboratories. The directors of these laboratories are more highly trained laboratory workers than the house officers. The report of each routine urine examination is recorded on the history by the house officer in charge of the case. Written reports of special examinations are sent to the wards by the directors of the medical, bacteriological or chemical laboratories, and each such report is entered in the patient's history by the house officer in charge of the case. All reports of urine examinations are entered in the histories as permanent records.

TOURO INFIRMARY, NEW ORLEANS, LA.

A. B. TIPPING, Supt.

Tissue specimens from the operating department are sent to the pathological laboratory twice daily, at 11:30 a. m. and 4:30 p. m., as a regular routine. Special specimens, also any obtained after 4:30 p. m., are sent to the laboratory immediately after the operation.

Each specimen must be accompanied by a regular form, properly filled in. It is the duty of the intern who assists in the operation to fill in the form before he leaves the operating department, and hand it to the head surgical nurse, who is responsible for the safe delivery of all specimens, with reports to the laboratory.

A specimen having been examined, the pathologist completes the form, which is then taken to the ward by the laboratory orderly and attached to the bedside notes of the patient with paste, a tube of which the orderly carries with him. The practice of pasting these reports on the bedside notes was introduced to prevent them from becoming mislaid or lost, or being placed under the current bedside notes, in which case they might escape the attention of the attendant on his next rounds. There were also occasional disputes as to whether the reports had been rendered or not by the laboratory. Subsequent to the adoption of this practice there has been no trouble in this respect.

If a patient leaves the hospital before the laboratory findings have been made, the orderly discovers this fact when he goes to the ward with the report, and he then delivers the report to the office, where it is placed in an envelope addressed to the attending surgeon, after it has been impressed with a rubber stamp reading as follows: "Please return this report to the Touro office, to be filed with patient's history." A record of all reports handed to the surgeons is retained in the office to insure their return.

Specimens of urine, sputum, feces, etc., from the wards are sent to the laboratory at least twice daily, oftener when necessary. The head nurse of the ward is responsible for the safe delivery of all specimens to the department. The ward orderly takes them to the laboratory under her instructions.

The form is filled in by the intern for all specimens, unless they are contained in a bottle, in which case another form, a cardboard tag, is filled in and tied to the bottle. Paper forms were found to be rather unsatisfactory, as they were liable to be mixed up in transit from the ward to the laboratory or in the pathological laboratory and difficult to fix to the container, therefore the tag was substituted. The tags remain on the bottles until the contents have been examined. The examination completed, the pathologist fills in the form and they are then sent to the wards by the laboratory orderly and handled in a similar manner to the tissue reports, as detailed above.

Full records of all surgical and bacteriological findings are kept in card index files in the laboratory on special forms. For the benefit of those hospitals which have not found a satisfactory container, it may be stated that the regular mason jars, ordinarily used for preserving jam, are very satisfactory for this purpose, as they are airtight, durable and can be easily sterilized.

GRACE HOSPITAL, DETROIT, MICH.

DR. W. L. BABCOCK, Supt.

Operating Room Specimens. The collection, labeling and dispatching of tissue specimens from surgical cases should be the responsibility of the operating room supervisor or one of her paid assistants. The following routine has been found satisfactory:

The utility nurse during the operation receives the specimen and immediately envelops it in sterile gauze before leaving operating room. Directly after the operation she delivers the specimen to the operating room supervisor or the assistant delegated with the responsibility of preservation and labeling of pathological specimens. The specimen is wrapped in a fold of sterile gauze saturated with a four percent solution of formalin. A printed shipping tag is then securely tied to the wrapped specimen and the tag properly filled out with the name of patient, clinical diagnosis, date, name of operator and character of examination desired. The specimen is then placed in a covered specimen tray. The permanent pathological blank is then headed with the data on tag and signed by the resident

or attending physician. This blank is left in the specimen tray until time for delivery of the specimens to the laboratory. On receipt in the laboratory this blank becomes the definite order for an examination, and on completion of the examination the findings are entered thereon and the blank becomes a part of the permanent record of the patient.

The operating room supervisor or her assistant enters, in red ink, in space provided for that purpose on the operating record book, the name of specimen and pathological examination required. At the end of the day this book records the day's operations and a check list of all specimens saved for examination. The head operating room orderly is delegated with the responsibility of delivering specimens to the laboratory. Specimens saved and collected in specimen tray from morning operations are taken to the laboratory by this orderly at 1:00 p. m. and from afternoon operations at 4:00 p. m. The pathological tags accompanying the tray equal in number the specimens within. To insure further against controversy on loss of specimens it would be desirable for the pathologist or one of his assistants to receipt for the specimens.

Specimens for Immediate Examination. Specimen is immediately immersed in a hot ten percent solution of formalin. A laboratory assistant is in waiting and specimen is taken directly to the laboratory or to the specimen room, frozen, stained, sectioned and studied microscopically. Verbal report is then made to the operator usually within ten or fifteen minutes after removal of specimen. After making this report the laboratory assistant fills out the permanent laboratory blank with the necessary data, including the findings. All laboratory blanks with the findings thereon are delivered to the desk of the resident physician at 5:30 p. m. They are at once checked up and charged to the patient if charges are customary, and then distributed to bedside chart of patient, where they remain until the patient leaves the hospital.

Museum Specimen. Large specimens for preservation are placed in covered glass jars of suitable size by the utility nurse and delivered to operating room supervisor. The pathological tag is filled out, recorded on operating room book and specimen taken to laboratory by the orderly at once.

Urine Specimen. Uniform bottles of flint glass should be provided for this purpose. It is preferable that such bottles be of a different size, color or shape from bottles used in the hospital for other purposes. The twelve-ounce, or so-called pint, grape-juice bottles, will be found excellent urine specimen bottles. Orders can be given that all these bottles be saved, returned to pharmacy, washed and delivered to laboratory, where they should be stored in one place. It should be the duty of the laboratory orderly to distribute to the toilet or utility rooms of all wards and corridors a given number of clean, empty, corked, urine bottles at a specified time each day. All utility rooms should be provided with a urine bottle rack capable of holding from eight to sixteen bottles, depending on bed capacity of ward or corridor. Specimens of urine saved during the day time should be immediately delivered to the laboratory by the ward orderly or probationer. Specimens of urine from newly admitted patients should be saved by the night nurse, collected in wire bottle basket by the night orderly designated for that purpose and delivered in laboratories before 6:00 a. m. Urine specimens of newly-admitted patients should be examined by laboratory assistant, a urinary clinical record made out, and record delivered to the patient's chart on corridor before 8:00 a. m., so that the findings may be available for the early morning operations.

Duplicate records of all pathological findings are filed in the laboratory by a card index system.

BUFFALO GENERAL HOSPITAL, BUFFALO, N. Y.

DR. R. R. ROSS, Supt.

After admission of a patient the first urine passed is sent to the laboratory for examination. Then, commencing at 6:00 a. m., the morning following admission, a twenty-four-hour sample is started. The total amount is sent to the laboratory the following morning for a complete analysis. Two sizes of urine bottles are used—one to hold single specimens and the other a twenty-four-hour quantity; these are corked by placing over the mouth of the bottle two or three layers of toilet paper held in place by a small rubber band. These are thrown away when the bottles are washed and sterilized. The urine examinations become a part of the patient's history and are filed with it.

BELLEVUE HOSPITAL, NEW YORK CITY

DR. GEORGE O'HANLON, Supt.

There are small laboratories connected with the various services of the hospital, in which all routine examinations of urine, blood and sputum are made by interns, and the findings are made a part of the case records.

All tissue specimens are sent from the operating room to the pathological laboratory, and the responsibility for safe and prompt transportation of these specimens rests with the house surgeon. The pathologist reports his findings on special blanks provided for the purpose, which are made a part of the patient's bedside history.

There are a certain number of eighteen months' appointments to the intern staff of the hospital, the first six months of this service being in the pathological laboratory. This gives the pathologist an opportunity to train these men, and to them is assigned a large part of the work of the smaller ward laboratories, when they take up their duties on the medical and surgical wards.

LOUISVILLE CITY HOSPITAL

DR. J. W. FOWLER, Supt.

Surgical Specimens. Wrap in gauze moistened with saline and send with "Surgical Specimen" blank to main laboratory as soon as possible after removal. Deposit in ice chest behind entrance door. Pathologist responsible for report.

Bacteriological Specimens. Send specimens with "Bacteriological Specimen" blank to main laboratory and deposit in basket on ice chest. Pathologist responsible for report.

Blood Cultures. Send written request on "Blood Culture Request" blank to main laboratory and file on hook on ice chest. Pathologist will get blood and report. Cultures kept five days before being reported negative.

Wassermanns: Blood must be obtained by intern on ward, must be delivered to main laboratory with properly filled "Wassermann" blank by 6:00 p. m. on Mondays and deposited in ice chest.

Autopsies. Charts must be complete, sent to main office immediately after death and delivered by main office with autopsy permission to main laboratory. Signal flashed fifteen minutes before autopsy begins.

Throat Cultures. Send swabs to main laboratory with "Bacteriological Specimen" blank properly filled with "K. L?" written under "Remarks." Deposit in bacteriology basket on ice chest. Pathologist responsible for report.

Blood Counts: Done by intern on service or student assigned to case.

Urinalysis. Admission urinalysis done by intern on

service in small laboratories. Subsequent urinalyses done by students in main laboratory. Specimens for students must be put on proper shelf at entrance to main laboratory by 7:00 a. m.

Widals, Sputa, Gastric Contents and Feces. Specimens obtained by intern on service. Specimens must be put on intern's shelf at entrance to main laboratory before 1:00 p. m., accompanied by directions on plain sheet of paper as to examination desired. Specimens sent down after 1:00 p. m. will not be done until the next day. Intern on clinical microscopy service responsible for reports.

Transudates, Exudates, Cell Counts and Globulins on Spinal Fluids. Done by intern on service in small laboratories. Spinal fluids for Wassermann or bacteriological examination must be separate sterile specimens and sent to main laboratory. For Wassermann see Wassermann directions. For bacteriology see "Bacteriological Specimens." Bacteriological examination made only of separate sterile specimens. Examinations made of specimens which are not delivered in separate sterile tubes are worthless.

Tubercle Bacilli and Gonococci. Stained smears done by intern on clinical microscopy in main laboratory. Deposit with directions on plain white paper on intern's shelf at entrance to main laboratory.

Urine Cultures. See directions for "Bacteriological Specimens." Examinations made only of catheterized specimens drawn into sterile tubes. Use "Surgical," "Bacteriological," "Wassermann" and "Blood Culture Request" blanks only on specimens intended for chief pathologist. With specimens for intern on clinical microscopy or for students use only plain slips of white paper and write name, date, ward and examination desired.

Sterile swabs for bacteriology and sterile tubes to be used for bacteriological specimens and for Wassermanns only are kept in care of head nurses on wards, head operating nurse and registrar in out-patient department. "Surgical," "Bacteriological," "Wassermann" and "Blood Culture Request" blanks kept in same places. Supervising nurses responsible for supplies on wards which may be obtained in main laboratory.

THE PRESBYTERIAN HOSPITAL, CHICAGO

ASA BACON, Supt.

In our hospital the operating room specimens are placed in sterilized utensils and are collected at eleven and four o'clock each day, and taken to the laboratory. A report of all specimens of importance is written up and attached to the history sheet. These reports are made up by the pathologist and become a part of the patient's record.

LOS ANGELES COUNTY HOSPITAL

DR. C. H. WHITMAN, Supt.

Urine Specimens. These are collected in steamed urinals from male patients, and similarly in clean bed pans from the female patients. A specimen is sent to the laboratory in a six to eight-ounce bottle, labeled with the date, name, ward and bed of the patient. It is the duty of the head nurse to see that for every new patient a specimen of urine is sent to the laboratory the first evening of the patient's admission.

A complete examination of this specimen is made by the junior intern of the division, and the findings entered upon a blank provided for that purpose. This copy becomes part of the permanent record of the patient. The urine specimen is taken to the laboratory by the ward orderly and the record blank is returned to the head nurse by the laboratory porter.

Specimens From Operating Rooms. All specimens are taken from the operating rooms to the laboratory by the anesthetist at the completion of the morning work, together with a filled out blank provided for this purpose. The tissue is studied by the resident pathologist and record of his findings recorded upon the same blank. The completed blank is now delivered by the laboratory porter to the head nurse of the ward, and then becomes part of the permanent record of the patient.

Every ward of the hospital is equipped with steam and water hoppers for cleaning and sterilizing bed pans, urinals, etc. These hoppers are supplied with superheated steam.

UNIVERSITY OF MINNESOTA HOSPITAL

DR. L. B. BALDWIN, Supt.

The collection of all specimens of urine and their delivery to the laboratory is undertaken by the nurses. Specimens are delivered in urine glasses instead of bottles. Each specimen is accompanied by a request for examination made on a regular request blank. Reports are copied on case record blanks by an intern, after he secures them by calling at the laboratory for them. Each examination is recorded as a part of the patient's record and a copy of the report is retained in the laboratory.

Tissue specimens are wrapped in a thick layer of moist gauze, a slip, bearing the name of the patient from which it was obtained, attached, and the specimen delivered to the laboratory icebox by a nurse. A surgical intern fills out a request blank as soon as possible after the specimen is secured and delivered to the laboratory.

In the case of specimens requiring immediate microscopic examination during operation, they are taken direct to the laboratory, sectioned, examined and reported upon at once direct to the surgeon. The results of all examinations become a part of the case records.

MASSACHUSETTS GENERAL HOSPITAL

DR. JOSEPH B. HOWLAND, Asst. Administrator

Pathological Specimens. The senior nurse in charge of the operating room of each service is responsible for all pathological specimens in the operating room being sent to the surgical pathological laboratory. The method is as follows: Small specimens are placed in a bottle of ten percent formalin or normal salt solution, corked and tagged with the name of the patient, service and date. Larger specimens are wrapped in gauze wet in ten percent formalin or normal salt solution and covered with rubber tissue. Accompanying specimens to the laboratory and completely filled in is Form 1 enclosed.

It has been found that house officers are apt to be called away during operations or immediately after by visiting surgeons, and for this reason many specimens in the past have been lost.

Urines. There is a list of patients in the wards kept hanging beside the hopper, into which all excreta are thrown. This list designates which urine and stools are to be saved and is to be consulted before they are thrown away. The list is arranged like this:

Kelly	Save	oz. 8+10+ 6+
Cohen	Save	oz. 15+12+ 7+
Paul		oz. 6+10+15+
Johnson		oz. 3+ 4+ 3+6+
Wood	Save	Single Specimen oz. 12+15+
French		oz. 10+18+14+

Those marked "save" are not to be thrown away. Others are to be measured and recorded and may be poured out. The urines saved are poured in a five-pint bottle into which one or two drachms of toluene have been placed as

a preservative, the larger amount being used for diabetic urines. In the medical wards these twenty-four-hour amounts are not measured as are the others, but are poured directly into the five-pint bottle and measured later by the night nurse at 7:00 a. m., when the twenty-four hours ends.

Ambulatory patients, whose urine is not wanted, are permitted to measure their own, record it and throw it away, unless their intelligence is not equal to this.

When the twenty-four-hour amount is to be saved the five-pint bottle is labeled, covered with a towel pinned around it and placed under the patient's bed. He is instructed that all urine must be poured into the bottle and there is an enameled funnel with each bottle to facilitate this.

The good points of having the bottles under the bed are that with bed patients there is no possible occasion for the orderly to pour the patient's urine away or mix it with any other, for the easiest thing is the right thing and with ambulatory patients the labels are sometimes not enough to keep urines from being mixed. An illiterate or careless person may easily do this, but if he knows his bottle is under the bed he cannot unwittingly make a blunder.

Single specimens are collected from each new admission by the night nurse just before 7:00 a. m. Urine glasses for these are labeled with Form 8. These glasses have a capacity of 150 c. c.

The night nurse has, as part of her duties, the preparation and labeling of the five-pint bottles to be used the next day, so that they may be ready by 7:00 a. m. when the previous ones are removed. They are carried in wire baskets, each with six compartments, so that six bottles go in one basket. The single specimen glasses go in a wire basket also, but there is room for twelve of these.

The orderlies carry these with the aid of a truck to the laboratory, generally having the specimens there by 7:15 a. m. The house officers examine them and by 10:00 a. m. should be through. The results are posted at once on the laboratory sheet, Form 6, which makes a part of the patient's record.

The bottles and glasses, after the intern has finished his work, are placed in the laboratory sink and are immediately cleaned by a laboratory helper. About 4:00 p. m. orderlies collect bottles and return them to the wards, where they are thoroughly washed with soap and water and left standing full of water until they are needed again. In the female wards, when the twenty-four-hour urine is being saved, the procedure is the same as in the male when the patient is in bed. When up and about she takes her bottle with her to the water closet, passes urine into a bed pan and then pours it into her bottle. This she then carries back to the ward and places it under her bed. We have found this arrangement of keeping bottles under the beds very important, as when there are many labeled bottles in the lavatory there are sure to be mistakes, and such errors may ruin a piece of research which has been going on for some time.

Special urines for the chemical laboratory, or for any other research, are labeled with the red label, Form 9, on which is written the name of the doctor for whom they are saved.

Urines collected from 7:00 a. m. September 10th to 7:00 a. m. September 11th, for example, are considered as being the urine of September 10th, and are so labeled and recorded on the clinical record.

Stools. Stools to be saved are noted on the sheet beside the hopper also, and patients notified if their stools are wanted. These are passed into bed pans and then transferred to china cups about five inches in diameter and four inches deep, each provided with a tin cover. They are kept in a zinc-lined ventilated cabinet in the lavatory until 7:00 a. m., when they go to the laboratory. The cups go through the same routine as the urine bottles, except that they are not kept full of water.

UNIVERSITY OF CALIFORNIA HOSPITAL, SAN FRANCISCO

DR. H. T. SUMMERSGILL, Supt.

Single specimens of urine are collected in a clean receptacle and sent to the laboratory in a clean, covered bottle, marked with the name of the patient, number of ward, bed and service.

If sterile specimens are ordered, these are obtained under aseptic precautions, carefully sealed and sent to the laboratory connected with the service to which the patient belongs.

Twenty-four-hour specimens consist of a 250 c. c. specimen of all the urine voided in twenty-four hours. This is prepared as is the single specimen and is marked likewise, excepting that it contains the whole amount voided in twenty-four hours, and also the words, "twenty-four-hour specimen."

The night orderlies are responsible for seeing that all specimens reach their respective laboratories before seven each morning.

Each chart contains a sheet for the report of analysis of urine. These reports are written on a chart by the intern in charge of the case, and this sheet becomes a part of the permanent record. It is the intern's duty to add the urinary and other analyses to the patient's permanent history record.

It is the duty of all laboratory orderlies to clean promptly all specimen jars and glasses and return them to their proper wards. All specimens of urine, sputum, pus and feces are thrown out if permitted to remain in the laboratory twenty-four hours, even if unexamined. We are obliged only at times to carry this procedure into effect in the students' dispensary laboratory.

Specimens of tissue are wrapped in gauze wet with normal salt solution, marked with name of patient, ward, diagnosis and nature of examination desired and taken to the pathological laboratory by the operating room orderly. If rapid frozen sections are desired, it is taken as soon as removed, otherwise specimens are not removed until the finish of the operation.

The report of the pathological findings is written by the pathologist and is copied on to the pathological chart sheet by the intern in charge of the case, and becomes a part of the permanent record.

All pathological reports are carried from the laboratory by a diener to the hospital office, and there promptly delivered to the various residents in charge of the cases.

MT. SINAI HOSPITAL, NEW YORK

DR. S. S. GOLDWATER, Supt.

Urines. 1. Single specimens are collected in test tubes by the night orderly. Each tube has been previously labeled with the date, patient's name, ward and bed number, and points to which special attention should be paid by the examiner. Labels are made out by the night nurse.

2. Twenty-four-hour specimens are started at 6:00 a. m. and completed at 6:00 a. m. the next day. After shaking the entire specimen a small amount is taken and treated as a single specimen.

3. All the specimens are kept in the lavatory, together with a list of specimens which have been ordered. The

physician who is to make the examination, after comparing the list with the specimens collected, signs the list and in this way acknowledges the receipt of all the specimens ordered.

4. The day orderly takes the specimens to the laboratory.

5. After examining the specimens the doctor charts the results in a special sheet for urinalysis. All results are charted before 11:00 a. m. The results become a permanent part of the patient's history.

6. Specimens are ordered:

(a) Specimens of urine from every patient are examined on admission and once a week thereafter.

(b) In some cases regularly every day, twice a week, etc.

Tissue Specimens. All specimens are taken care of immediately after their removal by a designated member of the house staff, according to the rules embodied in a special form, which is posted in the staff room on the operating floor. The pertinent data are recorded by him on another form and the slip is signed by him.

The material, with Form 2 attached, is brought to the laboratory (a) from the wards immediately by porter; (b) from the operating rooms. All specimens are kept intact by the nurse in charge of the operating room and are called for at 5:00 p. m. by a laboratory porter.

On arrival at the laboratory the tissues are looked after as soon as possible. The data on Form 2 are transferred by the pathological intern to the general record book of the laboratory, where a number is given it known as the accession number. When slides of the tissue are kept a second number is also given, known as the report number.

A third form is filled out and kept on file in the laboratory. Form 3 contains a complete record of the gross and microscopic appearances of the tissue, what parts were studied microscopically, the diagnosis, and whether any portions were kept in stock or in the museum.

The pathological diagnosis having been made, this is noted on Forms 2 and 3 and in the general laboratory record book, and signed with the name of the pathologist making the diagnosis. Form 3 is then filed permanently in the laboratory. Form 2 is sent to the house surgeon or house physician of the appropriate service.

The house officer sees to it that the report is transferred to a fourth form which is attached to the chart of the patient, and becomes a permanent part of the patient's record. The attention of the attending physician or surgeon is brought to the laboratory report noted on Form 4, when official visits are made.

SAN FRANCISCO HOSPITAL

Dr. R. G. Brodrick, Supt.

Specimens are collected in bottles provided for that purpose. Before pouring urine into bottle the latter is thoroughly rinsed with hot water, even though it appears clean. Four or five ounces is amount usually required.

A clean piece of paper is tied over the top of the bottle and a label is attached to the side, showing the name of patient, ward and bed number, the hour at which specimen was obtained and laboratory to which it is to be sent for examination. Bottles are placed in boxes and carried by nurse to laboratory.

All urine examinations are made by interns, who bring reports to ward, where they become part of patient's record.

Specimens of tissues are placed in small basins provided for that purpose. They are brought to laboratory by intern, who makes report to ward, where it becomes part of patient's record.

LAKESIDE HOSPITAL, CLEVELAND

Dr. A. R. Warner, Supt.

The specimens of urine are collected at night unless otherwise ordered. The nurses in charge of the wards instruct the orderly on the male wards what patients' specimens are to be obtained, and as he obtains them he reports to her and is given a label made out by the nurse in charge, which gives the name of the patient, the ward, the date, the kind of specimen (catheterized, etc.), precautions (typhoid, etc.), to which laboratory (gynecological, medical or surgical), and the ward doctor that has charge of the patient. This label is pasted on by means of stickers to the specimen bottle and is ready for the laboratory.

On the female wards the nurses obtain the specimens and see that the labels are placed on the bottles as the specimens are obtained.

The specimens are taken to the various laboratories before 7:00 a. m. by the night orderlies, *i. e.*, before they go off duty.

The ward doctor is responsible for the examination and charting of results of examination from all specimens from his ward, and must have these charted before his visiting man makes rounds.

The urine chart is an integral part of the case record.

Civil War Nurses Elect Officers

At the meeting of army nurses of the Civil War, recently held in Washington, D. C., officers were elected as follows: President, Mrs. Alice Carey Risley, Jefferson City, Mo.; counselor, Mrs. Rebecca Lane Price, Lancaster, Pa.; secretary and press correspondent, Mrs. Mary O. Stevens, Peabody, Mass.; senior vice-president, Mrs. Mary E. Squire, Sheboygan, Wis.; junior vice-president, Mrs. Susanna Kripps, Philadelphia; treasurer, Mrs. Salome Myers Stewart, Gettysburg, Pa.; chaplain, Mrs. Emily Alder, Clarion, Iowa; conductor, Mrs. Matilda Morrison, Cleveland; color bearer, Mrs. Nannie Cochran; guard, Mrs. Margaret Hamilton, Wakefield, Mass.; judge advocate, Gen. George B. Loud, New York City.

Mrs. Risley was born in New Orleans, La., and as a girl cooperated with her mother in helping all who sympathized with the Union. During the war, when conditions made it impossible longer to stay in the heart of the south, they made their way by night to a steamboat landing, and took a Mississippi boat for St. Louis. There was plenty of work to do, for every vessel from the south brought sick and wounded men, and soon the younger woman became in reality a hospital nurse.

Mrs. Stewart is the widow of a veteran, who, after he had met the young teacher who nursed soldiers in her home in Gettysburg, married her and became pastor of the United Presbyterian Church in that city, which he served until his death. Mrs. Stewart has served many years as treasurer of the National Association of Army Nurses.

Mrs. Stevens, as Mary O. Thompson, served in 1864 in Seminary Hospital in Virginia.

As Miss Pennypacker, Mrs. Price served in hospitals in Philadelphia, and was one of the first sent to Gettysburg, going by way of Baltimore, and, with one other, riding in a box car with the supplies she was carrying. Her mother and sister also were nurses, and it is said that besides these there were 147 members of the Pennypacker family in the service.

Construction work on a new home for the King's Daughters' Hospital, Gulfport, Miss., will be started this fall.

HOSPITAL, MEDICAL *and* SPECIAL MEETINGS

Principles of Hospital Construction[1]

BY MEYER J. STURM,
Architect, Chicago.

The poetic license which is so often assumed by the dreamer would in all probability not come amiss to some extent at this time were I to present to you, rather than a paper on "Principles of Hospital Construction," a paper on "Modern Hospital Ideals," inasmuch as we have come to look upon hospital construction as a thing apart from the ideals which give rise to its planning.

Purely from a material rather than an idealistic standpoint, the construction of a hospital would suggest that portion of the hospital which we actually see before us, rather than the hospital which we should visualize first and then, in a practical way, construct. I made the statement some years ago that few of us can distinguish between ideals which are practical ideas, and ideas which are impractical ideals.

In presenting to you, therefore, these few thoughts on the principles of hospital construction, I am taking them almost wholly from the point of view of the planning of an institution that will fulfil all of our ideals practically, or at least so far as human limitations make it practicable.

The modern hospital expert is something more than the architect who draws the comparatively few lines, makes the calculations and shows the size of your building, your rooms, and its accessories on his drawings. He is, as his name implies, an expert in and for hospitals, and as such it is as necessary for him to know the essential and minor details as it is for him to know the general ideas with which he obtains results in their entirety. Unfortunately, physicians as a whole have had rather impracticable ideas, not so much from a lack of interest as from a lack of opportunity for studying the hospital from its administrative and maintenance point of view. The busy physician or surgeon had or took no time to acquaint himself with what he considered these minor details which are so essential for the general administrative requirements of such institutions. If, therefore, we view the hospital as a "living thing" which must have all the suppleness and gracefulness required in any well working institution, we must endeavor to seek certain ideals and to standardize these to the fullest extent to obtain practical results.

The hospital must be a means to an end rather than the end, and must in no instance be considered as a climax. Rather it should be considered as an evolution, in which is visualized its most comprehensive usefulness for the future as well as the present to those who require its ideals of ministration.

We of the present day are not the arbiters of the extent and size to which our hospitals may attain. This is where the maximum of practical idealism must be fully comprehended. There can be no fixed ideas as to how large a hospital may be, and in a modern hospital it is necessary to design a hospital that will be flexible and readily enlarged. Our towns grow fast, and as they grow the population of these towns is becoming better educated to the hospital idea, that it is no longer a necessary evil, but a blessed necessity. In the handling of this problem, our ideals should go beyond what this generation requires and prepare for the future institution.

There are too many indiscriminate calls made upon men to endow institutions more or less worthy, but which have their inception only in the fact that what is in existence for the time being is not adequate for their needs, simply because there has been no thought of the immediate or far future. The consequence of all this is that there are many so-called mushroom hospitals which are put up without any idea of the ideals stated.

One 100-bed hospital manifestly could be administered, especially so if it were well planned, at much less cost than four hospitals of 25 beds each, and this could be applied to any size hospital in the same ratio. When I call your attention to the fact that a saving of one cent per patient per day in a 100-bed hospital is the interest at 5 per cent on $7,300 per year, you can readily figure how much it would be if a saving of ten cents per patient could be made per day, not only on the lessening of cost of maintenance, inasmuch as the overhead charge of a 100-bed hospital is practically no more than it is on a hospital of many times this size, but because what is required in the way of equipment of a permanent character in a 100-bed hospital, while it might be the minimum of such equipment, might still be sufficient for a hospital two or three times this size. This saving is real and vital, for in the first instance if such a saving is not made where it is possible to make it, then you have a perpetual mortgage to an amount equal to the interest charge of $7,300 for each penny, and in the other case you have practically a 100 percent gold bond from which you are clipping the coupons for all time. The saving to the patient today in the well equipped hospital, over and above the more poorly equipped hospital, is the difference between the actual cost and sometimes the entire cost of your institution, figured on the interest basis, and that is the only thing we have to figure on because any endowment that you have, in buildings or anything else, must be figured purely and simply on the income they bring, whether it is on a monetary basis or an endowment basis.

You will hear the paper on hospital equipment, which I am sure will be of interest, and I am in hopes that the reader of this paper will bring out the fact that the standardization of such equipment is one of the features of the present-day hospital which requires your earnest attention to attain the maximum of efficiency. In the short time allotted I can only give you the briefest outline of the possibility of making the hospital just what it should be to fulfil the requirements.

The first of these is the greatest amount of serviceability at the lowest cost consistent with a first-class structure, and a minimum of fixed maintenance charge for the maximum of work to be done. It must be patent to you that the first requirement, therefore, would be to have your problem worked out in a consistent and highly efficient manner. This would mean that if you were putting up a new hospital entirely, sufficient space should be provided for this purpose, and it should be in such a location that all of the ideals for which you are striving could be readily carried out, if not by you, then by the future generations. This would presuppose a comprehensive block plan showing the requirements of your institution.

[1]Paper read before the First Annual Convention of the Catholic Hospital Association, Milwaukee, June 24-26, 1915.

The second step would be to build such portion, or portions, of the institution as would fit your purse and then to proceed to have your plans drawn in preliminary form for the purpose of discussion for such a portion of the institution. Let me state that in the making of such a drawing, while such a first unit—as I am pleased to designate it—would be a complete hospital within itself, it would still, despite this or from the very nature of the plan, be a nucleus for the institution in its entirety with all of the necessary adjuncts, the entire institution.

To enlarge somewhat on this, such a first unit should embody your complete kitchen department, your complete laundry, and your power plant, and by the latter I mean the heating apparatus and such adjuncts as would be required for your institution. These departments, as well as the other departments in the hospital, should be so planned that they would serve the maximum number of patients to be housed in your hospital in its entirety or should be made so their future enlargement could be as readily made and at as little expense as would be entailed if you were erecting as a first unit the ultimate departments necessary. Necessarily, the addition of stairways for future units, or the addition of toilets for such units, are matters that can be very readily taken care of.

As an instance, your first unit should contain an operating department that would be practically none too large for this unit, but should be large enough or planned in such manner that it can be made large enough readily, without the necessity of moving such a department or building it in a future wing, to adequately serve the ultimate institution. I call attention to these particular points because it is the fact that the construction of these departments, such as the kitchen, power plant, laundry, and operating departments, and, for that matter, administrative department, is without doubt the most expensive in the construction of your hospital.

Manifestly, therefore, such a first unit containing as it does these departments, would be more expensive per se than a unit of the same size which contained only rooms and wards and toilets, which would be built in the future. It is therefore necessary that your hospital be planned along the lines which will make the cost of these departments a minimum and will give you the maximum of efficiency for your expenditure.

The mode of procedure seems to have been heretofore to buy a piece of property and erect a hospital, so called, on the grounds in approximately the position where it is impossible either to enlarge the hospital itself or to put up additional buildings to advantage, and it is true also that in no particular line of endeavor has this been considered an economical condition except in hospitals. Why should we not apply the same economic conditions to our hospitals that we do to any other class of buildings? We must be practical in order to attain our ideals, and we must recognize the fact that after all, even if our hospitals are entirely charitable institutions, the economic factor is one of the principal factors to be taken into consideration.

I have been so fortunate of late as to be connected with several large projects in which this economic object has been paramount, and in every instance it has been deemed advisable in putting additions to existing hospitals that such additions be taken as a nucleus for an entirely new institution. Only recently in the Charity Hospital at Cleveland, Ohio (Bishop Farrelly), this question was brought forward, and at present, despite the fact that tradition and sentiment would preclude the possibility of tearing down the oldest hospital in Cleveland, still it was impressed upon the authorities of that institution that if they erected at the present time a unit of the size which they required, as an economic factor it would be not only to their credit as good administrators, but from a pecuniary standpoint the proper procedure to plan an entirely new institution.

As for the actual construction of the modern hospital, taking it for granted that location and orientation of buildings are correct, the next step would be to design entirely for fireproof construction. We will take it for granted, therefore, that we have our plans in good working order for erecting our building, and then we are confronted by the equipment. I do not mean by this, furnishings, but the permanent equipment of the hospital, and it is here that I am making my most earnest plea for the standardization of such equipment. I say, without fear of contradiction, that it is at this point where the dividing line really lies between the failure of the hospital to carry out the maximum amount of work with the greatest efficiency at the least cost, and that institution which is apparently well planned wherein no such efficiency can be attained.

By equipment is meant not only the actual fixtures, but all of the mechanical and sanitary equipment which naturally form an integral part of the hospital. Under this heading would come the entire electric, plumbing, and heating work, not only as a whole, but in the thousand and one minor details which go to make up that perfection which is so necessary in these particular branches. These imply more than the mere installation of pipes and wire.

It is necessary that the entire details for your sterilizing equipment, your cooking apparatus, your steam tables, all of your plumbing fixtures, your entire heating and power and electric apparatus, etc., should be shown in detail not only in your drawings, but that each and every item to its minutest detail should be cared for in your specifications. This not only will give you efficiency in your institution, but in having such details and specifications minutely set forth, it gives you the advantage of open competition and the consequent minimum first cost in the construction of the building, but what I wish to lay stress upon most urgently is the fact that with such details and specifications which are thoroughly standardized, there need be no special preparation, either when the building is under construction or when it is necessary to give such equipment the attention which it must have in years to come. These minor essentials are just as important, if not more so, than the seemingly large problems, for without, as an instance of this, a signal system in your hospital which will be positive and quiet, and will make it possible for your nurses to get the maximum efficiency with the least amount of travel, you have lost even in the best planned hospital some of the requirements of your ideal hospital.

I do not confine myself to the signal system, for I could include a good house telephone, a convenient and good laundry chute, the convenient placing of your different departments, the apparently small but very essential matter of the control of your lighting system, and matters of this character into which I cannot go in detail in such a paper. The lighting problem itself in a hospital is one that is usually left to the lighting fixture man to suggest what he thinks is correct, whereas it should be worked out in every detail, even to the number of foot-candles required in every department, before the electrician starts on his work of pulling the wires, and as a plea for the men who are devoting their time to the working out of these problems for you, let me state that your general practitioner in architecture cannot, because it takes years to acquire the details for this class of buildings alone, have the intimate knowledge

which is necessary to work out these problems, any more than the general practitioner in medicine, although he might be efficient, could do an especially difficult surgical operation which required specialized skill.

In presenting this subject to you for the attainment of the ideal in hospital buildings, it will be necessary to say a few words relative to the general plan. Necessarily the basement would contain such working departments as you require; namely, your kitchen, power plant and laundry, unless you intend putting such departments in a separate building, which would be ideal. It would also contain, besides the accessory rooms, your special diet kitchen, nurses' dining rooms, and store rooms. When I say basement I don't mean a basement that is two-thirds or three-fourths under ground; I mean the basement as we are now constructing it in hospitals, that is, pretty well out of the ground. The first floor would contain your administrative departments and such wards as you require. The remainder of the building would be allotted to either smaller wards or private rooms, the latter separate or *en suite*, arranged in such manner as local requirements and conditions call for. The top floor, or such portion of it as would be required for the department, and which would obtain the north light, would necessarily be assigned to the operating department.

In planning and detailing all of these departments, the ideas of standardization and the standardization of ideals should be strictly adhered to. Let your diet kitchens and service rooms be of such size that they will adequately fulfil the requirements of such departments most readily. This would also hold in general for your linen rooms and toilet rooms.

The small ward has eventually come into its own for manifest reasons in preference to the large ward, and many of the costly and difficult problems of construction have been solved thereby. The allotment of these can be readily worked out by the authorities of the hospital with the aid of the architect.

In a practice limited to this class of buildings extending over fifteen years, during which time I have been the architect or consultant for over 100 such buildings, I have found that due to these minor local conditions, no two hospitals have ever been planned and erected exactly alike so far as arrangement in the particular distribution of rooms and wards is concerned, but in all of these hospitals I have uniformly worked toward the standardization of all departments which should be standardized. There can be no standard size of rooms and wards, but there can be standards established for the location and equipment of what I am pleased to term; the working departments.

I wish to call your attention to an article on page 410 of the June issue of THE MODERN HOSPITAL on the fallacy of the per-bed rating in calculating the cost of hospitals, especially that portion of it which calls attention to the manipulation of figures which reduce the cost per bed.

There is but one way to ascertain the cost of construction and equipment of your hospital; that is to have fixed ideas as near as practicable as to the number of ward and room patients which the building is to house, to work out in preliminary form the departments required to administer to a hospital of the size which you wish to erect, to ascertain the cost of labor and material in your particular locality, and even with such rough computation as the cost per cubic foot of such buildings, you can arrive at an approximate cost.

Let me beg of you to keep before you at all times the economic impossibility of building a hospital of a given size with insufficient funds. There are too many misleading statements made by both architects and contractors as to what can be done for given sums of money, but up to the present time I have never been able to correlate the actual cost of buildings ultimately erected and the stated cost before even plans were made.

You can only obtain under the most favorable circumstances just so much building for a given amount of money, and there are but two methods in which you can handle your problem; namely, either to put up a hospital commensurate with your means, or to put up the hospital that you desire and obtain the means for building it. If, in no other manner, you can at least obtain your ideals, however modest your institution must be perforce, if at all times your ideas are practical.

The Purchase of Hospital Supplies[1]

BY LOUIS H. BURLINGHAM, M. D.,
Assistant Superintendent Peter Bent Brigham Hospital, Boston.

A well-known physician has said, "When I know very little about some subject and wish to learn something about it, I write a book on it." It was with this in mind that I accepted the invitation to write a paper on the purchase of hospital supplies.

In all administrative work, experience is a great asset; nowhere is it of more value than in the purchasing department. A monograph could well be written on this subject by one with adequate experience. I shall attempt to set down only a few facts which have come up in my experience and which I hope may prove stimulating.

In 1904 Dr. H. B. Howard read a paper on this subject at the Sixth Annual Conference of the Association of Hospital Superintendents. As I read this article I was struck very forcibly with the fact that the methods in use at the present time at both the Massachusetts General Hospital and the Peter Bent Brigham Hospital practically follow the same principles, though several minds have been brought to bear on this subject. Changes in details and refinements, of course, have been introduced. There is still the weekly marketing day for perishable foodstuffs, such as meats, butter and eggs, vegetables, and fruits. The comparison book is still in vogue, as is the frequent inspection of the store, and the purchasing is done by a member of the administrative department, no longer the superintendent, but an assistant who has had some training in this work. The price book is now kept in the form of a card index, and if by chance a rarely purchased article should not be listed in this file, it can readily be found in the bill file under the name of the firm.

The store book is replaced by a perpetual stock inventory. This system may be described briefly as follows: All goods as received are inspected as to condition, and weighed or counted by the storekeeper on arrival, and entered on a receiving sheet, which is sent to the bookkeeper's office, a carbon copy being retained by the storekeeper. All bills are checked in the bookkeeper's office by the receiving sheet. Nothing leaves the store but by requisition. A card is kept in the office for each article. On the card are entered the receipts and disbursements, so that at any moment the amount on hand in the store is shown.

Gauze and coffee do not now need to be purchased annually, as we can get quite as good prices in smaller quantities through the Hospital Bureau of Standards and Supplies in New York.

[1]Paper read before the American Hospital Association, San Francisco, June 22-24, 1915.

And right here I wish to say a word about the Hospital Bureau of Standards and Supplies, though I hold no brief for it and our institution has no vote in its management. The Massachusetts General Hospital has proven that the amount saved in money by purchases made through the Bureau is fully equal to the annual dues, and to this must be added the great benefits that accrue through having a carefully determined standard in so many lines of goods.

We still see salesmen but once and then ask that matters of interest be sent to us by mail.

Our method of procedure on marketing day is as follows:

The telephone operator writes down on forms specially prepared to permit easy comparison, the prices quoted her by three or four firms for meats, poultry, vegetables, fruits, butter and eggs, pork products and fish.

TABLE No. 1

PETER BENT BRIGHAM HOSPITAL

QUOTATIONS—VEGETABLES

Asparagus				
Beans				
Beans				
Beets				
Brussels Sprouts				
Cabbage				
Cauliflower				
Carrots				
Corn				
Celery				
Cranberries				
Cucumbers				
Dandelion				
Eggplant				
Lettuce				
Mushrooms				
Onions				
Parsley				
Parsnips				
Peas				
Potatoes				
Potatoes, sweet				
Pumpkins				
Radishes				
Romaine				
Spinach				
Squash				
Tomatoes				
Turnips				

Table No. 1 gives a sample form of the quotation blank used. The other forms are similar.

We accept quotations only from first-class firms, who know that we wish only first-class goods. The prices quoted can be checked easily by reference to the price list published weekly by the Boston Chamber of Commerce, or by the lists which appear in the daily papers. A short examination of the lists enables one to determine where he will probably buy, and lay out his route of travel accordingly. The personal inspection of beef, lamb, mutton, veal, the sampling of butter, fruits and some vegetables before placing the order are points we consider of great importance. Nearly an hour is spent in traveling to and from the market, and somewhat over two hours in the actual purchasing. Thus the morning routine work and the marketing can be accomplished by 1:30 P. M. The goods are all in the store and ready for inspection by 5 o'clock. This inspection is to make sure that deliveries correspond with purchases and allows a more careful inspection of goods bought from samples.

We buy our beef whole, and prefer corn-fed steers, weighing from 800 to 850 pounds, well rounded in the hind leg and loin, and with forequarters plump; and avoid those with lean necks and large shins. The suet should be well distributed and not laid on in heavy layers outside the muscle; it should show a general mottling of fat on cut transverse section; there should be a sufficient covering of fat on the inside of the ribs. A market man of wide experience states that in old or grass-fed animals the choicer cuts are depreciated in a much larger proportion than in the better animals. We like to see the meat of a cherry red or lighter color, the fat not too yellow. In younger cattle, the inner side of the ribs has a reddish hue, and the tip of the pelvic bone is supposed to show a softer cartilage covering than in older animals. If buying only hinds, other things being equal, buy the left as they are hung up, as the kidney suet on this side is several pounds lighter than on the other. It goes without saying that sides of beef should hang for four weeks or rather more to attain their finest flavor and tenderness. Full corn-fed beef, as compared with grass-fed or part corn-fed, has a better, redder color, called "bloom" by the market men, and when cut the surface does not seem to sink, but almost to protrude from its surrounding ribs and fat.

Frozen beef may at times be as much as a cent a pound cheaper than fresh meat, but freezing seems to be a greater detriment to beef than to any other meat, because of the loss of tissue juices when the meat is thawed, and because frozen meat cannot be properly aged by hanging. When beef which has been frozen and thus thawed is struck several times sharply with the hand, the cut surface shows a weeping of tissue juices.

Many of the general statements made in regard to beef apply to lambs, mutton and veal, though we do not feel that they are injured quite as much by freezing. Mutton should weigh 65 to 70 pounds dressed. Corresponding to the steer, the wether sheep furnishes the best mutton. Lambs should weigh 35 to 40 pounds; genuine spring lambs show a square surface covered with cartilage when the second joint is broken; after they are a year old this joint becomes round. Another point of difference is that when the hoof is removed, in the young animal it shows a toothed surface, but covered with cartilage; in the older animal this toothed appearance can be produced artificially, but, of course, there is no way of covering it artificially with cartilage. Veal should weigh 80 to 100 pounds, and be 4 to 6 weeks old. We find pork loins weighing 10 to 12 pounds usually the best. Freezing does not seem to injure pork loins especially.

The statements I have made in regard to frozen goods apply only to products that were frozen when in prime condition. Goods which have been frozen after the process of decomposition has begun cannot be too strongly condemned.

We all wish to have as great a variety in our menus as possible, but we never can get away from the daily per capita cost. Food in its natural season is always better than that which is produced under artificial conditions or held in cold storage, though both of these may be very good.

I have found the following tables of much use in determining the right times to purchase fish, fruit and vegetables:

TABLE No. 2

PETER BENT BRIGHAM HOSPITAL

FISH

	Seasons	Prices		Percentage of Waste
Bluefish	April to October	$0.10 to	$0.18	10%
Butterfish	May to October	.08 to	.15	10%
Cod	All year round	.03½ to	.08	8%
Clams	All year round		.90 gal.	.....
Clams for Steaming	All year round		2.00 bu.	.....
Finnan Haddie	All year round	.08 to	.12	.....
Flounders	All year round	.04 to	.08	10%
Haddock	All year round	.03½ to	.08	10%
Halibut (large)	All year round	.10 to	.20	7%
Mackerel (medium)	May to October	.12 to	.30	10%
Jack Shad	February to June	.10 to	.20	10%
Roe Shad	February to June	.12 to	.30	10%
Swordfish	June to October	.12½ to	.30	20% Bone out
Spanish Mackerel	All year round	.10 to	.30	10%
Smelts	June to March 15	.10 to	.20	20%
Sea Trout	All year round	.06 to	.20	10%
Western Salmon	All year round	.12½ to	.30	15%
Oysters	Sept. to June 1	1.10 to	1.50 gal.	.....
Quahaugs	All year round	1.50 to	2.00 gal.	.....

TABLE No. 3
PETER BENT BRIGHAM HOSPITAL
FRUIT

	Seasons	Prices			
Bananas	From January to January	$0.02¾	to	$0.03½	lb.
Berries, Straw	From February to August	.10	to	.35	qt.
Black	From August to October	.10	to	.20	qt.
Rasp	From July to September	.10	to	.20	pt.
Blue	From June to September	.10	to	.20	pt.
Cantaloupes	From May to October	2.00	to	3.50	crt.
Cherries	From June to August	.10	to	.25	qt.
Currants	From July to August	.06	to	.18	qt.
Dates	From November to June	.06	to	.08	lb.
Figs	From November to June	.10	to	.18	lb.
Grapes, Natives	From July to June	.10	to	.20	basket
Malagas	From September to March	3.00	to	6.00	keg
Grape Fruit	From January to January	2.00	to	5.00	box
Lemons	From January to January	2.00	to	4.00	box
Oranges	From January to January	1.50	to	4.50	box
Peaches	From July to October	.75	to	1.75	basket
Pears	From July to March	.75	to	1.75	box
Pineapples	From January to January	2.00	to	5.00	crt.
Plums	From July to November	1.50	to	3.00	crt.
Rhubarb	From February to August	.01	to	.15	lb.
Watermelon	From July to October	.35	to	.60	each

TABLE No. 4
PETER BENT BRIGHAM HOSPITAL
VEGETABLES

	Seasons	Prices			
Asparagus	From March to July	$1.50	to	$3.00	doz.
Beans, String	From January to January	.50	to	4.00	bu.
Shell	From August to November	1.00	to	2.00	bu.
Lima	From July to February	1.00	to	3.00	bu.
Beets	From January to January	.50	to	1.50	bu.
Cabbage	From January to January	1.00	to	2.25	bbl.
Cauliflower	From September to April	1.00	to	2.50	bu.
Carrots	From January to January	.50	to	1.00	bu.
Corn	From July to October	.75	to	1.75	bu.
Celery	From July to May	1.00	to	1.75	doz.
Cranberries	From January to January	4.00	to	8.00	bbl.
Cucumbers	From January to January	.40	to	1.50	doz.
Dandelions	From March to August	.50	to	1.50	bu.
Eggplant	From January to January	.75	to	2.50	bu.
Lettuce	From January to January	.25	to	1.00	bu.
Mushrooms	From January to January	.75	to	2.00 (3 to 4 lbs.)	basket
Onions	From January to January	1.00	to	2.00 (2 bu.)	bag
Parsley	From January to January	.50	to	2.00	box
Parsnips	From January to January	.50	to	1.50	box
Peas	From April to September	1.00	to	3.00	box
Potatoes	From January to January	1.50	to	5.00	bbl.
		.50	to	1.00	bu.
Pumpkins	From September to January	.50	to	1.00	bu.
Radishes	From January to January	.20	to	.45	doz.
Romaine	From January to January	.25	to	1.50	bu.
Spinach	From January to January	.25	to	1.50	bu.
Squash, summer	From March to September	.75	to	3.00	bu.
native	From August to July	1.00	to	3.00	bu.
Tomatoes	From January to January	.75	to	4.00	bu.
Turnips	From January to January	.40	to	1.00	bu.

TABLE No. 5
FRUITS, VEGETABLES AND NUTS
Established Legal Weights per Bushel, 1914
Weights of one bushel, one peck and one quart of certain vegetables, etc., as provided by the laws of Massachusetts

	1 Bu., lbs.	1 Peck, lbs.	1 Quart, ozs.		1 Bu., lbs.	1 Peck, lbs.	1 Quart, ozs.
Apples	48	12	24	Oats	32	8	16
Apples, Dried	25	6¼	12½	Onions	52	13	26
Barley	48	12	24	Parsley	8	2	4
Beans	60	15	30	Parsnips	45	11¼	22½
Beans, Lima	56	14	28	Peaches	48	12	24
Beans, Shell	28	7	14	Peaches, Dried	33	8¼	16½
Beans, Soy	58	14½	29	Peanuts, Green	22	5½	11
Beans, Scarlet or White Runner, Pole	50	12½	25	Peanuts, Roasted	20	5	10
Beans, String	24	6	12	Pears	58	14½	29
Beans, Windsor (broad)	47	11¾	23½	Peas, Smooth	60	15	30
Beets	60	15	30	Peas, Unshelled Green	28	7	14
Beet Greens	12	3	6	Peas, Wrinkled	56	14	28
Bran and Shorts	20	5	10	Potatoes	60	15	30
Buckwheat	48	12	24	Potatoes, Sweet	54	13½	27
Carrots	50	12½	25	Quinces	48	12	24
Corn, Cracked	50	12½	25	Rice, Rough	44	11	22
Corn, Indian	56	14	28	Rye	56	14	28
Cranberries	32	8	16	Salt, Coarse	70	17½	35
Dandelions	12	3	6	Salt, Fine	50	12½	25
Feed	50	12½	25	Seed, Clover	60	15	30
Flaxseed	55	13¾	27½	Seed, Herd Grass	45	11¼	22½
Kale	12	3	6	Seed, Sea Island Cotton	44	11	22
Lime	70	17½	35	Seed, Timothy	45	11¼	22½
Meal (except Oatmeal)	50	12½	25	Seed, Upland Cotton	30	7½	15
Meal, Corn	50	12½	25	Spinach	12	3	6
Meal, Rye	50	12½	25	Tomatoes	56	14	28
Millet, Japanese	35	8¾	17½	Turnips	55	13¾	27½
				Wheat	60	15	30

BARREL

Flour	196	pounds
Potatoes	165	pounds
Potatoes, Sweet	150	pounds
Liquid Barrel	31½	gallons
Hogshead	2	barrels

By the use of these tables we are able to furnish a satisfying amount of these products when they are best in quality and lowest in price. The fish table enables me to tell also if the shrinkage in amount received, compared with the amount ordered, is due to dressing or to short weight.

The quantities of vegetables received can be checked up by comparison with a list furnished by the local sealer of weights and measures. This list gives the weight of a bushel, peck and quart of practically all materials sold by dry measure, alphabetically, from apples to wheat, including altogether 54 different items.

On the first of each month we ask three standard firms to bid on a list of groceries. We ask for quotations on first-quality goods, but state that we are willing to be informed of any "good buys" that we can be offered. Inasmuch as we know the quality, we place the orders according to the prices submitted. This enables the firms to know just where their bids are too high, and yet, inasmuch as there are only three competing firms, each gets an order that is worth striving for.

Canned goods are purchased yearly from samples furnished through the Hospital Bureau of Standards and Supplies and from two or three local dealers. We retain unopened cans of each variety so that we can compare the goods as delivered, side by side, with the original samples.

On all sides we hear the call to standardize, and we are trying to answer the call. We have found that marking all materials suitable for this purpose with the date they were put into commission is very serviceable, and lately we have been adding the initials of the firm from which they were purchased. As we use a marking machine for all goods passing through the laundry, this adds an infinitesimal amount of labor. Articles of metal or wood are easily marked by means of steel stamps; for wood we also use, when more suitable, a burning brand.

We are fortunate in being able to take our ten-day discount on every bill where it is allowed.

Generally speaking, we have not found it profitable to try to beat the market by laying in large supplies when prices seem favorable, though at times we are able to make quite a saving in this way.

The Company Hospital[1]

BY R. W. CORWIN, M. D.,
Chief Surgeon Colorado Fuel and Iron Company, Pueblo, Colo.

[Dr. Corwin had intended to use a large number of lantern slides and by their means to conduct the convention audience through the Minnequa Hospital at Pueblo. Want of facilities in the convention hall prevented this demonstration, greatly to the regret of those present. —Ed. Note.]

The Colorado Fuel and Iron Company has coal and iron mines and lime quarries located in Colorado, Wyoming, New Mexico, Utah and California, some over five hundred feet above sea level, others ten thousand feet. These camps employ from fifty to five or six hundred men each when in full operation.

The company also has a steel works at Pueblo, Colorado, where it employs from 3,500 to 5,000 men. Forty-two or more dialects are spoken.

Welfare work is carried on in some form or another whenever the company plants are in operation.

STEEL WORKS DISPENSARY

At the entrance of the steel works, in the yard with the general offices, is located the dispensary. It has a staff of four regular physicians—no interns. There is in attend-

[1]Read before the Seventeenth Annual Conference of the American Hospital Association, San Francisco, June 22-25, 1915.

Fig. 1. Minnequa Hospital, Pueblo, Colo.
Main entrance.
West wing. East wing.

ance always one or more of the doctors. Here is kept a complete assortment of drugs and medicines and surgical supplies for emergencies. 62,881 cases were treated at the dispensary last year.

MINNEQUA HOSPITAL

The location of Minnequa Hospital of the Colorado Fuel and Iron Company at Pueblo is ideal. The grounds occupy an eminence on a broad mesa overlooking beautiful Lake Minnequa. To the west forty miles are the Cuerno Verde and the Sangre de Cristo mountain ranges; fifty miles to the north, Pike's Peak, and seventy-five miles to the south, the Spanish Peaks.

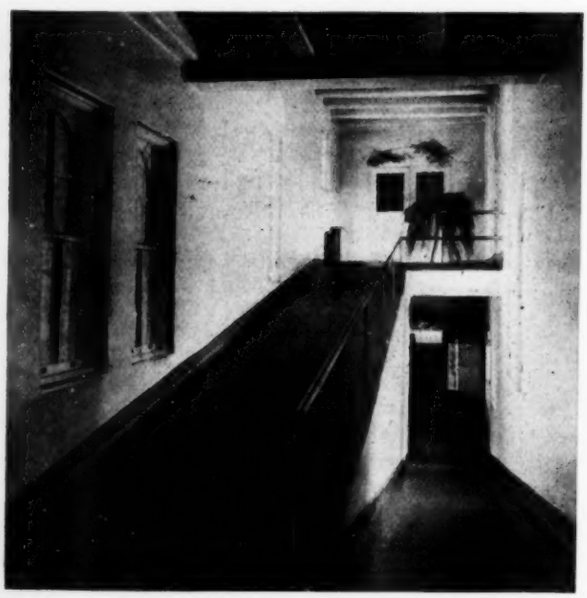

Fig. 2. Minnequa Hospital, Pueblo, Colo. Inclines used instead of stairs. Fall, 12 feet.

The architecture is known as Spanish Mission; the construction is of brick and cement; the roof, red tile. The absence of verandas is noteworthy. A wide veranda obstructs light and air, and is unsanitary. Ill persons are annoyed by the congregating of people on the outside.

The gate at the south entrance to the hospital grounds is of cement construction, Spanish Mission style, harmonizing with the hospital structure. At the west entrance there is another Mission gate, of wood construction. A walk leads from the south gate to the hospital, on each side of which is a row of flowering hedge.

Just inside the grounds is the recreation hall. It is supplied with smoking and reading rooms, furnished with rustic chairs, tables and book cases, and a fireplace. Here the convalescent enjoy many hours, playing games, reading and visiting friends.

The rustic bridge, which crosses a beautiful grassy lake, is one of the most artistic spots on the grounds. The twenty-acre lawn with an abundance of shade may be called a general ward for the convalescents. Fresh air is administered freely and most gratefully do the patients respond to Nature's remedy.

Every patient is kept out of doors as much as possible. There are open-air tents for those suffering from pulmonary troubles, and a pavilion for contagious cases.

The entrance to the hospital is approached by an inclined driveway rising a half-story, covered by a porte-cochere. A patient may be taken from the ambulance on a wheel stretcher and rolled to any part of the building without being jarred or shaken, as inclines are used in place of stairs and elevators, through the hospital. Stairs make it hard for both patients and attendants, and the elevator is often out of order or the operator not at hand. Inclines do away with all these objections, to say nothing of the comfort to the patients and convenience to attendants. They make it almost as easy to go from one story to the next as to walk on the level floor.

Entering the front door, one is attracted to a beautifully decorated corridor. Bright flowers and plants on rustic stands relieve the eye, and the baskets and boxes of flowers over the doors shed an atmosphere of cheerfulness not found in most hospitals. Over the archway of this corridor is a painting—"The Allegory of Silence"—done by Professor Ernesti.

One is impressed with the plainness and simplicity of the architecture. It is perfectly simple, but attractive; doors are panelless and transomeless; there is not a shade at any window, but instead the washable "Minnequa Curtain," noiseless in the wind, part or all easily removed, and so arranged that much, little or no light may be admitted.

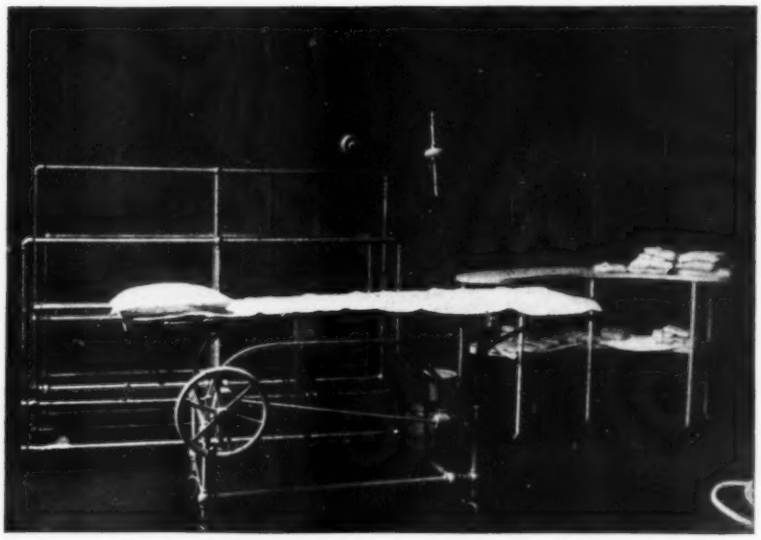

Fig. 3. Operating room, Minnequa Hospital, showing lead wall.

The capacity of the hospital is 216 beds. Every room is an outside room.

Showers and rubbing slabs take the place of bath tubs. A very important feature is the arrangement of the plumbing, which has been placed far enough from the wall to admit of its being easily got at from all sides. There is no boxing-in, but everything may be reached by the housemaid and thoroughly cleaned.

All corners are rounded, above, below and at the sides, hence all surfaces are easily cleaned, and dust does not readily accumulate.

The floors are laid with a cork carpet, which is noiseless, not cold, and soft to the feet. It is a rare exception for a nurse to complain of discomfort to her feet.

All rooms are decorated with pictures in black and white, and paintings. The pictures in each room form a group illustrating a country or theme; for instance, an English, a Dutch, a Japanese, a Spanish or Indian room. No two rooms are draped alike, but each is made to harmonize with its pictures. The reason for this idea is to relieve the patient when tired of his surroundings by changing him to another room with entirely different surroundings. The pictures are hung low so that they may readily be removed and cleaned.

Artificial flowers, which today are made so perfectly that they are commonly mistaken for the natural, are used extensively in the rooms and corridors. The artificial flower has the advantage of long life. A dying plant is suggestive to a sensitive and seriously ill patient. In the sick room often not enough attention is given to little things such as this.

Each floor has a linen apartment. In the center of each room stands a stack of shelves with a round top, away from the wall so that it may be approached from all sides and easily cleaned. In place of bureaus or chiffoniers a chest of shelves and hooks is used, opening on both sides, so that they can be cleaned through and through.

The Indian sun parlor is especially artistic, with the Indian bowls, Navajo rugs, and decorations of brilliant foliage, and is much used during inclement weather. It leads to the nursery, which is complete in every detail.

The operating room is a decided innovation, as it is lined throughout with sheet lead. On the floor the lead weighs twelve pounds to the square foot, and on the sides and ceiling, six pounds. The ceiling slopes to carry any condensation of moisture to the sides. The room is sterilized with live steam. It is heated by the indirect system. Screened air is forced into the room and the air from the room is exhausted by electric fans. Light is admitted from but one side, the north, thus preventing cross lights. The walls are dark, absorbing light, which is a relief to the operator.

Lead is waterproof, nonabsorbent and crackless, thus affording no lodging places for germs and admitting of thorough cleaning. It is airtight and waterproof, not easily damaged, and if punctured is readily repaired; it expands and contracts without fracture, is noiseless, not slippery and does not reflect light. What more can one ask?

The room in which anesthetics are administered is painted green and decorated with pictures and frames in sepia and other browns—colors which psychologists say are least irritating to the brain.

Fig. 4. COMPARISON OF THE WHITE WITH THE BLACK OPERATING SHEET.

Vision depends on reflection. If a dark sheet is used the wound reflects more strongly than the sheet because the latter absorbs much of the light.

If a light sheet is used, it reflects more than the wound, the sheet reflection predominating; hence the wound is poorly seen, whereas with a dark cover the wound reflection predominates.

The advantages of a dark sheet are that it absorbs light, rests the eye, and the predominating reflection is from the wound.

The disadvantages of the white sheet are that it reflects strongly, tires the eyes and produces feeble contrast.

It is contrast that is desired. The dark sheet is to the surgeon what the dark room is to the ophthalmologist.

There are both x-ray and pathological laboratories. The former has a Scheidel-Western interruptless x-ray coil, with all accessories for doing the fastest and most deep-seated work. Extensive use is made of both these departments.

Minnequa Hospital has a nurses' training school. During the junior year they study anatomy, nursing, materia medica, bacteriology and medicine. The second or intermediate year they are taught anatomy, nursing, bacteriology, dietetics, materia medica, bandaging, nursing ethics and medicine. The senior year embraces the study of clinics, anatomy, obstetrics, bandaging, surgical technic and materia medica, and lectures on hygiene, gynecology, eye, ear, nose, throat, etc.

The Minnequa Hospital farm, about seven miles from Pueblo, has a herd of forty-eight selected cows and 700 chickens. It furnishes the hospital with milk, cream, poultry and eggs.

[Following the description of the hospital, an outline of the welfare work was presented. The following list gives an idea of what is being done and what is contemplated.—Ed. Note.]

Welfare is essential to the company's interest and is not a philanthropic, but a business policy.

- **Preventive**
  - Direct
  - Indirect
- **Curative**
  - Medical
  - Surgical
- **Direct**
  - First aid
  - Safety first
  - Examination
  - Vaccination
  - Sanitation
  - Education
- **Indirect**
  - House and home surroundings
  - School
  - Church
  - Night school
  - Lectures
  - Bulletins
  - Social clubs
  - Parents' meetings
  - Boy Scouts
  - Camp Fire Girls
  - Nurse
- **First aid**
  - Draeger helmets
  - Pulmotors
  - Self-rescue outfits
  - Rescue cars
  - Stretchers
  - Ambulance
  - Drill corps
- **Safety first**
  - Fool-proof protection
  - Signs, printed
  - Signs, electric
  - Danger signals
  - Notices in different languages
  - Photos
  - Displays
  - Literature
  - Rules, enforced
  - Inspectors
  - Reporting of dangerous places
  - Fire protection
  - Goggles
  - Shoes, special
  - Lock
- **Examination** (Physical, Mental, Moral) — Compulsory on admission
  (Re-examination periodically.)
- **Immunization** — Smallpox, compulsory; Typhoid, if desired
- **Immunization** (Diphtheria, Tetanus, Rabies) — When needed
- **Sanitation**
  - Ventilation
  - Light
  - Heat
  - Drinking water
  - Wash rooms
  - Paper towels
  - Lockers
  - Toilets
  - Urinals—convenient
  - Corps of cleaners
  - Rubbish cans
  - Fumigation
  - Painting
  - Camp cleaners
  - Reports
- **Education of management, superintendents, bosses**
  - Importance of welfare work
- **Education of employees**
  - Interpreter
  - Safety
  - First aid
  - Lectures
  - Moving pictures
  - Health bulletins
  - Posters
  - Nurse
  - Personal contact
  - General bulletins
- **House and home surroundings**
  - Sanitation
  - Finances
  - Expenses
  - Food
  - Physical condition
  - Mental condition
  - Vice
  - Social relations
  - Civic relations
  - Education
  - District nurse
  - Recreation
- **Medical and surgical departments**
  - Minnequa Hospital, Pueblo
  - Steel works dispensary
  - Camp dispensaries

Correction re Mr. Bartine's Paper on Hospital Construction

Mr. Oliver H. Bartine wishes acknowledgment given to Messrs. Marc Eidlitz and Son, for their valuable cooperation in the preparation of the important cost data tables printed in the last number of THE MODERN HOSPITAL. Messrs. Eidlitz's name was omitted by oversight.

The order of Columbian Woodmen is considering the establishment of a sanatorium at Gloster, Miss.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General United States Army.

Women in Military Hospitals. The Hospital, London, 1915, LVIII, No. 1526.

A scheme is being inaugurated for women of the Voluntary Aid Detachment of the British Red Cross Society to take the places of men in the military hospitals. Thousands of men now acting as dispensers, clerks, stockkeepers and cooks may thus be set free for active service.

The Need for Psychiatric Clinics. N. Y. Med. Jour., 1915, CII, No. 11.

The scarcity of facilities in our large centers for the treatment of mental disturbances and the impossibility of meeting the needs of mental patients in existing neurological clinics, are cited in this plea for the establishment of clinics in connection with state hospitals for the insane. It is suggested that such clinics should be maintained in large population centers, and be administered by physicians who are the interns of state hospitals.

The Social Service League of Shanghsha. Lotta Carswell Hume. The Survey, 1915, XXXIV, No. 26.

Mrs. Hume studied nursing at Johns Hopkins Hospital under Adelaide Nutting and demonstrates her convictions of the importance of this work in her story of the social service movement in Shanghsha. Among other present urgent needs for a social service movement in China, the writer mentions trained workers to organize and direct civic movements, and adds: "In almost every center the hospital will be found the natural starting point for such work."

A New Bed Roller (Een nieuw bed-rijder). Ziekenhuis, Amsterdam, 1915, VI, No. 5.

The transport of hospital patients frequently presents difficulties, especially if the patient is in a condition forbidding much handling. The author describes an apparatus which obviates these difficulties. It consists essentially of a strong iron frame, which rests on four wheels provided with rubber tires. This frame carries a lifting device. The apparatus is rolled under the bed to be transported. By simply pressing down a lever the bed is raised from the floor, and resting entirely on the frame it can be rolled to any place desired. Two illustrations show the details of the apparatus.

A Central Purchasing Office for Hospitals and Asylums in the Netherlands (Een centraal inkoopbureau voor ziekenhuisen en gestichten in Nederland). M. Pimentel. Ziekenhuis, Amsterdam, 1915, VI, No. 6.

The author proposes the following plan for a central purchasing office for the Dutch hospitals. The organization, of which any hospital may become a member, establishes a central office managed by a business man. The hospitals send lists of the articles wanted to the central of-

fice, mentioning quantity, price or other details. The office corresponds with the various manufacturers, who, on their part, make proposals as to quality, price, etc., from which the hospitals can make their selection. Such an office would confine its work only to the purchase of apparatus, instruments and pharmaceutical articles. The author considers this plan superior to a cooperative purchasing association, where the central office would do the buying for all hospitals.

A Profitable Hospital Garden. The Hospital, London, 1915, LVIII, No. 1527.

The Royal Devon and Exeter Hospital, Exeter, founded in 1741, is situated in the heart of the city almost within the shadow of the towers of the world-famed cathedral, and still has about two acres of gardens and grounds. Half an acre is devoted to recreation grounds and the remainder utilized for fruit and vegetables. The hospital publishes detailed reports from the gardener's day-book of 1914, showing the aggregate yields in fruit and vegetables, to prove that this hospital has the immense advantage of having its day's consumption at immediate command, and that the garden is also a source of profit from a financial point of view.

Hospital Trains of the Red Cross (I treni ospedale della Croce Rossa). Ospedale Maggiore, Milano, 1915, III, No. 6.

The Italian Red Cross has fitted out twenty-two hospital trains, each of which can transport 206 patients. On each train a director, a physician-in-chief, four assistant physicians, a pharmacist, a chaplain, and a varying number of male and female nurses. Each train contains a kitchen, a pharmacy and an operation room, where in urgent cases operations are performed while the train stops at the various stations. Four similar trains have been furnished by the Knights of Malta, so that the total capacity of the Italian hospital trains is 5,356 beds.

Medical Students in War Time. The Hospital, London, 1915, LVIII, No. 1526.

The following table shows approximately the number of students in certain medical schools during the first year of war compared with the normal figures:

	Normal Numbers	1914-1915
St. George's	80	20
St. Bartholomew's	450	285
King's College Hospital	70	45
King's College	232	107
Cambridge	164	111
Manchester	300	250
Leeds	150	100
Liverpool	166	123
Aberdeen (men)	300	250
Glasgow (men)	650	600
Total	2,562	1,891

A further serious fall in numbers is anticipated for the term which opens this month.

The Obstetrical Division of the Maria Vittoria Hospital (La sezione ostetrica dell' Ospedale Maria Vittoria). Dr. Fino. Giornale d. Osped. Maria Vittoria, Torino, 1915, XV, No. 2.

In 1909 the Maria Vittoria Hospital in Turin established an obstetrical service for poor but worthy women. But the work grew more and more, so that the hospital did not have room enough to accommodate all the patients that applied for beds. In 1914 the managers of the hospital decided to devote to this work an entire building, which had been the residence of the late Dr. Berruti, and had been generously donated to the hospital by the owner. This building, called "palazzina," is located only a short distance from the hospital and is surrounded by a large and luxurious garden, thus forming an ideal place for the patients it is intended to receive. The building has three stories and is equipped with all the modern appliances and improvements.

Increased Vegetable Diet in Hospitals (Vermehrte Gemüsekost in Krankenhäusern). Dr. H. Kraft. Heilanstalt, Leipzig, 1915, X, No. 13.

In examining the dietaries of the German hospitals the author finds that with few exceptions the vegetables are not given the place due them. Meat with cereals in the form of bread, pastries, rice, macaroni, etc., form the chief food. The vegetables proper (leaf and root vegetables—if the potatoes are excepted) play a very inferior role in the dietary. No wonder that the patients get tired and complain of the food served them! A mainly albuminous diet is frequently harmful to the patients. In fever patients albuminous food increases intestinal fermentation and thereby favors the continuance of the febrile conditions. But in cooking vegetables they should not be boiled, as is frequently done, because the most valuable substances are thrown away with the water. To get the full value out of vegetables, they should be steamed.

The Efficiency of the Smaller Hospital. W. E. Browning. The Railway Surg. Jour., XXII, No. 1.

The varied and complex elements constituting hospital efficiency and their relationship to patient, community and hospital staff are taken into consideration in arriving at the firm belief, after twelve years' experience with a small institution that "it is not only possible but feasible and practical to build and equip in a town of less than 2,000 people, a thoroughly modern hospital, equipped with every comfort and convenience to the patient that can be obtained in any large city hospital, plus the additional asset of fresh air, quiet and freedom from dust and traffic."

The arguments for the so-called "hospital village," in the writer's opinion, apply as forcefully to the smaller institutions in our rural towns, and calls attention to the fact that the hospital is trending—in so far as is consistent with the better means of conveyance today—toward the country districts.

An Operation Room at the Front (Une salle d' opération sur le front). Dr. A. Mignon. Paris médical, 1915, V, No. 10.

The present war has changed many earlier views on military surgery. Thus it was formerly believed that gunshot wounds of the abdomen were best let alone, the patient abstaining for a time from all solid and liquid food. But in the present trench fighting operation rooms are now established not more than one or one and one-half miles behind the firing lines. In cases of gunshot wounds of the abdomen, the surgeons now do not hesitate to open the abdomen frequently less than twenty minutes after the wound was inflicted, and they get much better results. The author describes an operation room at the front whose component parts can be transported on a carriage and which can be put up in an hour in any building or "wherever four walls are left standing." The ceiling and walls of the room are formed by sheets of strong canvas supported by light wire ropes, which are attached to eight hooks. The walls contain one or two doors and as many windows. The ceiling contains a hole in the middle, through which passes the pole of a chandelier and which supports the canvas of the ceiling. The maximum dimensions of the room are about four yards square and three yards high. The dimensions may be reduced according to the size of the locality where the room is installed. The

floor is formed by heavy rubber sheets. A Dion-Bouton apparatus furnishes the electric light. The furnishings consist of an operation table, x-ray apparatus, autoclave, water sterilizer, disinfecting apparatus, etc.

The New Buildings of St. George's General Hospital in Leipzig-Eutritzsch. Scharenberg & Zettler. Heilanstalt, Leipzig, 1915, X, No. 13.

The new St. George's Hospital of the city of Leipzig is located north of the city. The grounds comprise 214,700 square meters. The administration building contains waiting, reception and examination rooms, as well as rooms for the physicians and nurses, a pharmacy, laboratories, a lecture room and a central telephone station. Each of the four handsome hospital buildings is 85 meters long, and consists of a basement, two stories and an attic. There is room for 184 beds in each building. All four buildings are connected by a covered gallery with the operation building, which has two operation rooms, one for aseptic, the other for septic operations, also a sterilizing and an x-ray room, laboratories, etc. Two buildings, each 70 meters long, are intended to receive patients with pulmonary tuberculosis. There is also an observation building for patients with infectious diseases, and a pathological institute provided with the most modern apparatus and instruments. Among the other structures may be mentioned the kitchen building, a large laundry, a workshop, a building for the central heating plant and a disinfecting house. This great hospital was built in less than three years at a cost of 9,179,748 marks ($2,294,937), or 7,881 marks ($1,970) per bed.

Insanity and the War. Ed., The Lancet, London, 1915, II, No. 10.

Commenting on the remarkable decrease in the number of admissions to the Belfast District Hospital for the Insane during the past year, compared with the twelve months preceding, Dr. William Graham, the superintendent, is quoted as holding that "it is not the great tragedies of life that sap the forces of the brain and wreck the psychic organism—on the contrary, it is the small worries, the deadly monotony of a narrow and circumscribed existence, the dull drab of a life without joy and barren of achievement." He believes that one of the eventual results of the war will be a great decrease in the amount of mental instability which has been increasing in recent years; that people will return to the virtues of a simpler life, partly by choice and partly by necessity, and may well entertain the hope that what they have sowed in tears those who come after them will reap in joy.

Cubic Air Space for Bottle-Fed Infants. Thomas S. Southworth. Archives of Pediatrics, 1915, XXIII, No. 9.

Experience of eighteen years with institutions caring largely for bottle-fed infants has impressed the writer with the belief that 600 cubic feet of air space per infant was inadequate. In the hope of securing some definite data of value and authority, a questionnaire was sent to each member of the American Pediatric Society. The following conclusions are based on answers received:

1. The majority (21 in number) of the hospitals and institutional wards for infants from which reports of cubic air space were received provide 1,000 cubic feet and upward of air space for each inmate, and only five reported 600 cubic feet or less.
2. Even with 1,000 or more cubic feet of air space free ventilation is deemed highly important, and as the space decreases such free ventilation becomes more and more imperative.
3. No allowance of cubic air space is at present made for the necessary attendants in wards.
4. Reduced cubic air space means less square feet of floor space and less separation between cribs, with proportionately increased opportunity for the spread of cross infections. There is a growing belief that even with free ventilation separation of the beds plays as important a role as cubic space. Such adequate separation, however, is only attainable with large cubic air space.
5. On account of their handicaps, bottle-fed infants are more liable to require more space than nursing infants.
6. Bottle-fed infants require as much cubic space as so-called sick, "medical," or "surgical" cases among infants.
7. The majority of pediatric physicians believe that infants should have as much cubic air space as adults, if not more, and this is especially true of bottle-fed infants, because they are more susceptible to infection, suffer in their nutrition in confinement, and notoriously do badly in all save the best equipped institutions.
8. Bottle-fed infants, when retained for any considerable length of time in hospitals or institutions, cannot properly be classed as well infants because a considerable proportion of them suffer both in their digestion and nutrition, besides forming acute intercurrent affections, and therefore require unusual attention in their feeding and nursing care.
9. Limited cubic air space, involving limited floor space, is an important contributory factor, though by no means the only factor, in the high mortality of artificially fed infants, and such crowding in limited space is very commonly the concomitant—if not itself a cause—of faulty hygiene, insufficient care, and inadequate nursing.
10. Even with a liberal allowance of cubic air space, free and abundant ventilation is of equal importance. In addition, provision for roof-gardens, porches and sun parlors is advisable, if not imperative.
11. The mere presence of windows does not of itself constitute ventilation, but their proper use must be provided for.
12. A low minimum of cubic space established by law, without definition of what constitutes efficient ventilation, and without enforcement, may be more harmful than beneficial, and constitute a virtual license to overcrowd in ill-ventilated wards.
13. The example of the more progressive hospitals and institutions, which provide the larger amount of air space per infant, together with free ventilation, is to a considerable extent nullified by state and local regulations licensing, for the less progressive, the employment of minimum air space (contrary to the majority opinion of those best qualified from experience to be judges) for a class of infants among whom there is admittedly an unduly high mortality.

Commissioner Katherine B. Davis has received a check for $18,000 from John D. Rockefeller, Jr., and another of $10,000 from Mrs. William K. Vanderbilt to be applied toward the construction of a new hospital on Riker's Island. Work on a building to accommodate 132 patients will begin at once. It is to consist of four wards, a dining room, kitchen, day room and doctor's quarters. The hospital will be built of hollow tile and stucco in modified mission style. Dr. Ernest S. Bishop will be in charge.

It is reported that the Des Moines (Iowa) General Hospital, heretofore operated by the Still College of Osteopathy, in conjunction with the city, has been acquired by Drs. J. N. Griffin and Thomas E. Gutch, of Albia, Iowa, who will establish a hospital for coal miners. Drs. Griffin and Gutch have been operating a 30-bed hospital for miners at Albia on the insurance plan, by which a monthly payment of 50 cents entitles the miner and his family to needed medical or surgical treatment and hospital care. Increasing demands upon the hospital at Albia has made it necessary to seek larger quarters. The insurance plan will be continued at the Des Moines institution, and it is said that an addition increasing the capacity of the Des Moines Hospital to 175 beds will be erected. The doctors already have 7,000 subscribers.

A handsome building for a general hospital has recently been completed at Middletown, Ohio, at a cost of $47,000. It is a two-story and basement structure of pressed brick, fireproof and soundproof, containing eight private rooms, three two-bed wards and two eight-bed wards. A campaign is being conducted for funds to equip the hospital, and it is expected that it will be opened by the first of next year.

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FOREIGN CORRESPONDENCE

Military Hospital Arrangements in Great Britain[1]

PAPER III

There has been an extensive use of school buildings for hospital purposes in various parts of the country, as an emergency measure under war conditions. There are two objections to this plan, which appear to have great force: (1) considerable expense must be incurred in making the adaptation necessary for the accommodation of sick and wounded, and (2) the educational system of the town or district is disorganized. Besides which, the result is somewhat of a makeshift. Nevertheless, the elementary schools in the hands of the military authorities numbered as many as 250 (approximately) in May last, which would imply the ousting of about 130,000 children. It is understood that all the scholars, except about 6,000, were provided for in the neighboring schools, one set of children attending in the morning and another in the afternoon, and in many cases the children being taught out of doors. The tendency has latterly been either to erect temporary structures at comparatively slight cost, but specially designed for the purposes required, and in many cases constructed on the principle of open-air treatment for the wounded; or to take over poor law infirmaries, the accommodation in which has often been found to be larger than was needed for the sick poor of the district, and at the same time very well adapted for the purpose now required. In the metropolitan area the Mile End, Lewisham, Hampstead and Bethnal Green infirmaries have been acquired by the war office, the inmates being accommodated in the infirmaries of neighboring unions.

In the early months of the war many wealthy and benevolent persons offered their private houses for the treatment of the wounded. These offers were at the time gratefully accepted in very many cases, as the need for accommodation was urgent, on account of the unprecedentedly heavy list of casualties; the country was unprepared for the enormous numbers of men placed *hors de combat* and needing to be cared for. In a very short time, however, the existing hospital authorities in London and throughout the country organized their forces and placed a very large number of beds at the disposal of the war office.

For the treatment of officers, private houses, as well as public institutions, have been of great service; but for the army generally it is now, we believe, decided that no further offers of this kind will be accepted, either for auxiliary hospitals or for convalescent homes.

Two special hospitals for officers suffering from traumatic neurosis, or battle shock, have been opened in private houses in Kensington. The one first established at Palace Green, a delightfully retired spot adjoining Kensington Palace, has always been fully occupied, more than a hundred officers having passed through, and nearly all of them having recovered under the influences of rest, quiet and watchful care. A second hospital has now been opened for similar cases in the same neighborhood, at Moray Lodge, Campden Hill, which stands in four acres of ground, and overlooks Holland Park. This house, the residence of Mr. R. L. Harmsworth, has been generously given up by him, and accommodates 33 patients. Owing to the efforts of the Blinded Soldiers' Care Committee, 120 men can now be received into their hostel at St. Dunstan's, Regent's Park, where spacious workshops have been erected in which these poor fellows can be trained in various suitable handicrafts.

The British and German governments have agreed upon a special sign to be used for hospitals, churches, and museums, as a protective against aircraft. This sign consists of a square diagonally divided into black and white segments, and has been painted on the roofs of buildings occupied by patients at the London Hospital and elsewhere. In the event of bombs being dropped near a hospital, which may emit poisonous gases, it is directed that basement and ground floor windows should be closed, as these gases are heavier than air and would not rise to any great height. It is stated that the bombs contain phosphorus dissolved in carbon disulphide. For extinction of fires so caused water is preferable to sand. Happily, there does not appear so far to have been any attack on hospital buildings, or on huts or houses used for the accommodation of the sick or wounded, either military or civilian.

Across the channel the troops of the Indian contingent have two hospitals near Boulogne; one of these is established in the buildings of a Jesuit college, which has been well adapted to the purpose, and has nominal accommodation for 200 patients; in reality, however, it provides for 1,000 or more, having wooden, or galvanized iron, huts erected in the grounds. The medical staff includes officers of the Royal Army Medical Corps and European orderlies and wardmasters, as well as the Indian native establishment of water carriers, sweepers and cooks. These native hospital attendants are necessary on account of the caste restrictions of Indian troops.

The hospital assistance provided by Canada has been on a most generous scale. There are hospitals at Wimereux, Le Touquet, Tréport and Etaples, the last named accommodates 3,000 patients and is staffed by the Universities' contingent. In addition, Canada has contributed large sums of money, besides providing twelve motor ambulances and large supplies of shoes and clothing.

At Cliveden, on the Thames, the Red Cross Hospital has been enlarged to accommodate 500 patients, at a cost of £25,000; and two convalescent homes have been established in Kent, which provide for 700 or 800 inmates. Besides this, the Red Cross Society has contributed £2,500 for a Canadian ward in an additional hospital provided by the Order of St. John of Jerusalem. The medical and nursing staffs of these hospitals are entirely Canadian.

Hospitals in France. A great variety of buildings have been utilized for hospital purposes across the channel; hotels, schools, barracks, factories, etc. This, of course, renders the work of administration, as well as the actual care of patients, more difficult; but war, as the proverb says, "is full of trouble." In one instance, we hear, most of the equipment of a general hospital fell into the hands of the enemy, and the establishment evaporated into space. At present the main hospitals abroad are in the neighborhood of Rouen and Boulogne. What was formerly known as the Duchess of Westminster Hospital, now No. 1 Red Cross Hospital, is established at Le Touquet, near Etaples, about 25 miles from Boulogne. A very large hospital base is in existence at Rouen, where every kind of building has been taken over for this purpose; and besides, hospital marquees

[1]Paper I appeared in THE MODERN HOSPITAL of May, 1915; Paper II in THE MODERN HOSPITAL of October, 1915.

Motor car parade, Grove Park, London.

have been erected, with boarded floors, double roofs and every convenience; also huts, double-walled, well raised from the ground, and in every respect suitable for the treatment of serious cases.

As the outcome of experience as to the best working plan for administering the medical arrangements of the line of communications, it has been found that practically all the British military hospitals in France (especially in the Boulogne area) are best used as "clearing stations"; that is, all cases are sent to England for treatment unless either they are likely to be able to return to active duty within three weeks or their condition is so grave as to make immediate hospital treatment necessary. The officer in charge of the hospital reports twice daily to his administrative chief his requirements for transport of patients, specifying those fit for discharge to a convalescent depot, those requiring (and fit for) passage to England, and those fit for evacuation to a more distant base, such as Rouen.

In many respects the medical service of the present campaign differs widely from any previous experiences; perhaps one of the most marked and important evolutionary developments is to be found in the employment of the ubiquitous motor car, which will probably be found to have exercised an enormous influence on field medical organization (as well as on the strategic and tactical problems involved). A motor ambulance convoy consists of 50 ambulances, together with a repair van, two or three supply lorries, two motorcycles, and a car for the officer commanding. The staff consists of a major, Royal Army Medical Corps, in command, with 3 officers, R. A. M. C., a quartermaster, 3 motor transport officers (Army Service Corps), and a driver and orderly for each ambulance. Each convoy is responsible for evacuating the sick and wounded of two divisions, from the front to the clearing hospital, and thence to the ambulance trains. An immense number of motor cars and motor ambulances are in use, and, by their means, in a country well provided with magnificent roads, such as France, the problem of rapid removal of wounded from the front to suitable hospitals of a more or less permanent character has been much simplified. It is said that 70 percent of the field ambulance transport now consists of motor vehicles. The accompanying illustration shows a parade of these cars at their rendezvous at Grove Park, in the southeastern suburbs of London. As already mentioned, what were formerly known as Clearing Hospitals are now called Casualty Clearing Stations. They are mobile units that move as the army moves. (It cannot be said that mobility has been a marked feature of the present campaign so far.) To these points are brought the wounded from the front by means of motor ambulance transport, generally arriving in the early part of the day. The cases are examined and classified; first aid dressings may be renewed, fractures and other serious injuries are examined, immediate operation cases detained, and the remainder (about 70 or 80 percent of each convoy) transferred to the hospital train, and so to the base with the utmost expedition.

What has been described as "a complete hospital on wheels" is the latest development of railway accommodation for the wounded, as exemplified by the Princess Christian Hospital Train, constructed by the Birmingham Railway Carriage Co., from the design of Mr. William J. Fieldhouse. According to the requirements of the war office it accommodates 400 patients, either lying down or sitting up; 174 of these are provided with cots, disposed in four carriages or wards of 36 beds each, and one of 30; the remaining 226 patients are able to sit up. In the brake van are separate wards for infectious cases, if required. The cars are loaded from the ends, and unloaded from doors in the center. They are heated by steam, the temperature being capable of regulation for each car separately. Sleeping accommodation is provided for the staff, including medical officers, nurses, cooks and 23 orderlies. A well-arranged kitchen, surgery, office, store room, etc., make up a train complete in every detail according to our present experience. The lighting is by both gas and electricity. A RETIRED ARMY OFFICER.

KANSAS CITY ENJOYS HOSPITAL BUILDING BOOM

Missouri City's Facilities for the Care of the Sick Being Almost Doubled

New hospitals now contemplated or in course of construction in Kansas City, Mo., will, when completed, represent an expenditure of more than three million dollars and practically double the hospital bed capacity of the city.

These are some of the improvements actually being made or which will be started soon:

Christian Church Hospital, initial building, nearly completed	$200,000
East Side Hospital, new building	15,000
German Hospital, additions soon to be authorized	250,000
City General Hospital, bonds voted for enlargement	125,000
Mercy Hospital, more than $100,000 raised in a campaign to secure a building fund of	200,000
Polyclinic Hospital, new building	25,000
St. Joseph's Hospital, new building under construction	500,000
St. Mary's Hospital, addition started	60,000
South Side Hospital, enlarged	45,000
City Tuberculosis Hospital, new building almost completed	150,000
Wesley Hospital, new building under construction	100,000

In addition to these undertakings several small private hospitals are being built, and a $100,000 memorial home for aged persons is to be erected by the George H. Nettleton Home Association.

The Christian Church Hospital, of which the first unit is nearing completion, is designed ultimately to embrace a group of buildings costing a million dollars.

The newest project is that of the recently incorporated Southwest School of Medicine and Hospital (homeopathic), which proposes to expend a million dollars in the erection of buildings, beginning next year.

St. Luke's Hospital, under Episcopal auspices, increased its capacity last year from 25 beds to 50 beds, but is said to be already looking forward to further extensions.

PHILANTHROPY AND THE PUBLIC HEALTH

THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR.
BAILEY B. BURRITT, General Director.
WILLIAM H. MATTHEWS, Director,
Department of Family Welfare.
DONALD B. ARMSTRONG, M. D., Director,
Department of Social Welfare.

THE HOSPITAL PERISCOPE

Social Service for Contagious Disease Cases—An Inquiry Into 150 Cases Discharged After Communicable Diseases

BY HOLLAND HUDSON

Many persons in hospital work think of the hospital social service worker as a rather over-sentimental Lady Bountiful, dispensing groceries and good advice to the needy patient without much reference to the medical and surgical status of the case. She is much more than that now in any modern hospital: she is the human periscope by which the hospital can direct both its course and that of its patients to mutual advantage.

This article is less to acclaim the virtues of social service than to illustrate, by example, what may be seen through the periscope and thereafter remedied by the hand and the voice of social service. Last winter the New York Association for Improving the Condition of the Poor made a study of 150 cases discharged from the Willard Parker hospital, with the cooperation of the Department of Health. The study was made by Dr. Caroline E. Rosenberg, of the Bureau of Hospitals, and directed by Dr. Donald B. Armstrong, of the A. I. C. P. Post-hospital examination was made of measles, scarlet fever and diphtheria, fifty patients to each disease. Only discharged patients under fifteen years of age were visited. The important findings were these:

That 53 percent were ill after discharge;

That 83 percent had some pathological condition;

That the general condition of 31.3 percent was below normal;

That 88.6 percent of the mothers were in need of medical instruction.

The figures in detail are:

MEDICAL HISTORY SINCE DISCHARGE*

	Measles	Scarlet	Diphtheria	Average
Children's condition since discharge as reported by mothers—				
Well	46%	50%	44%	46.6%
Ill	54%	50%	56%	53.3%
Excoriation of nose with bloody discharge	2%	4%	6%	4 %
Ear discharge or painful	2%	8%	2%	4 %
Coughed	20%	4%	12%	12 %
Pneumonia	4%	....	4%	2.6%
Intestinal	10%	6%	2%	6 %
Coryza	...	4%	2%	2 %
Diphtheria	6%	6%	2%	4.6%
Measles	...	2%	....	.6%
Scarlet	...	....	2%	.6%
Paralysis	4%	....	12%	5.3%
Skin lesions	...	....	....	1.6%

*The medical history was obtained from the mother of the child. She was closely questioned as to symptoms and signs. Diagnosis had sometimes been previously made by a physician.

PATHOLOGICAL FINDINGS UPON PHYSICAL EXAMINATION

	Measles	Scarlet	Diphtheria	Percent of Total
Children who had pathological condition	78%	90%	82%	83 %
Ears affected	2%	8%	....	.....
Bronchitis	20%	8%	12%	13.3%
Glands—anterior cervical	20%	18%	18%	18.6%
Tonsils	62%	68%	72%	67 %
Intestines	10%	6%	30%	15.3%
Paralysis	4%	....	12%	.....
Excoriation of nostrils*	2%	4%	6%	4 %
Heart (murmurs)	...	8%	....	.....
Kidney—albumin	...	20%	(4% with casts)	.....
General physical condition below par.	38%	26%	30%	31.3%
Children who had no pathological condition	22%	10%	18%	17 %

*Cultures negative.

PROBABLE CARRIERS AND RETURN CASES

	Measles	Scarlet	Diphtheria
I. Developed after discharge within incubation period—			
Measles	...	2%	4%
Scarlet	4%	...	2%
II. Probable carriers of diphtheria infection from hospital developed diphtheria between discharge and investigator's visit.	6%	2%	2%
III. Probably transmitted to other child—			
Measles	12%	...	...
Scarlet	4%	8%	2%
Diphtheria	4%	...	20%
IV. Apparently contracted disease from home-treated patient in same building	8%	2%	10%
V. Investigator suspected tuberculosis in home	4%	6%	14%

These are dangerous figures. From them a hasty propagandist with more zeal than knowledge of his facts might compose an "exposé" of Willard Parker Hospital and its staff. It seemed wise to the investigators, however, to go further, to try to get back of the results to contributory causes. Dr. Rosenberg found most of the patients in the same environment in which the disease was engendered, necessitating their removal to Willard Parker Hospital. More than 88 percent of the families were in need of continued medical and hygienic instruction, and in 24 percent of them other children than the patient needed medical attention. The environmental data and need of instruction have been tabulated as follows:

ENVIRONMENT

	Measles	Scarlet	Diphtheria	Total
Number of rooms in majority of homes	3	3	3	3
Average number of persons in an apartment	5.8	6	6.9	6.2
Apartments with 8 persons or more	8	9	18	35
Apartments with 7 persons or more	17	14	28	59
Building condition of apartment—				
Good	16	10	15	26.6
Fair	21	31	23	50
Bad	13	9	12	22.6
Cleanliness of home—				
Good	23	24	25	48
Fair	22	19	21	42
Bad	5	7	4	10

INSTRUCTIONS

	Measles	Scarlet	Diphtheria	Percent of Total
Number parents receiving medical instruction	86%	96%	84%	88 %
Homes where other members of family besides discharged needed medical instruction	14%	24%	34%	24 %
Those needing instruction in diet	18%	8%	10%	12 %
Advice for cleanliness and general hygiene needed	20%	14%	12%	15.3%
No advice or instruction needed	16%	2%	12%	10 %

When the report was submitted to the Department of Health, the issue raised was met promptly and squarely. The bad conditions indicated were publicly and frankly acknowledged in the department's weekly bulletin, and a remedy instituted. Lacking sufficient funds for the immediate extension of the social service work, the Division of Communicable Diseases is utilizing its post-graduate training school for nurses to follow up post-hospital cases and make finally secure the work which the staff of the Willard Parker Hospital has in part accomplished.

The report and its sequelæ means two things: another successful demonstration of the need for hospital social service to obtain facts and to aid substantially the work of the hospital; and the endorsement of the hospital periscope for one more kind of hospital—the contagious disease type—by America's most important municipal health agency.

PREVENTION OF BLINDNESS
MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,
Secretary National Committee for the Prevention of Blindness;
Chairman Committee on Prevention of Blindness and
Midwives National Organization for Public Health
Nursing.

Trachoma in the United States[1]

BY GORDON L. BERRY,
Field Secretary, National Committee for the Prevention of Blindness.

In a recent issue of THE MODERN HOSPITAL there appeared an article on trachoma in Kentucky, by Dr. James A. Stucky, of Lexington. Doubtless the information regarding the prevalence of this disease in that state came as a surprise and a shock to many to whom the word "trachoma" had previously meant little. But when the actual condition and the extent of its spread throughout the country is evidenced by a small amount of investigation, and we find that trachoma has penetrated not only Kentucky, but is found in large or small degree in many of our maritime and industrial centers, and has become a scourge second only to tuberculosis among the Indians on practically every reservation in this country, then indeed it must be admitted that the control and eradication of this disease is one of the great public health problems of today.

Trachoma is no new disease. Perhaps it is one of the oldest, for we find references to it among the writings of the early Greeks and Egyptians. At first, evidently confined to restricted areas in the Orient, it was carried westward along the great caravan routes until it penetrated Europe, and from there was transferred to American shores through emigration. It can hardly be said that trachoma has become general in its occurrence throughout the United States as yet, but we find it prevalent to large extent in the mountain sections of Arkansas and Missouri, in southern Illinois, in Texas, in Kentucky and contiguous states, and among all the Indians.

Just what is trachoma? The word itself comes from the Greek "trachus," meaning "rough"—hence the origin of the expression which describes its first stage—"granulated eyelids." The disease itself is defined by Dr. John McMullen, Surgeon U. S. Health Service, as an inflammation of the conjunctiva which originates in infection from a trachomatous to a non-trachomatous eye. The germ organism responsible for trachoma has not as yet been discovered, but wherever it secures an initial foothold, we find that unless proper precautions are taken, it is readily communicable through the mediums of the roller towel, the dirty wash basin, the common use of bed linen, clothing, etc. It is essentially a chronic disease, extending over years, sometimes seeming to have entirely disappeared and then breaking out again in more serious attacks, ultimately causing partial or total blindness or serious impairment of vision, unless its ravages have been checked by proper remedial treatment.

Following the primary, inflamed, granular condition, we find some of the most distressing sequelæ, any or all of which may cause great suffering to the patient, and may bring about an almost total reduction of efficiency. The delicate membranes of the eyelids, "burned out," so to speak, by the infection, are replaced by scar tissue, as nature endeavors to eradicate the disease. The formation of this scar tissue may be accompanied by contraction, which brings about an in-turning of the eyelids, a stage technically termed "entropion." The margins of the lids roll inward and the eyelashes, instead of pointing out as normally, beat up and down on the eyeball, causing extreme irritation and frequent corneal complications. In fact, the cornea almost always becomes implicated at some stage of the disease in untreated trachoma. Ulcerations on the surface of the cornea may result in a condition known as "pannus," which consists of the overgrowth of the cornea with a thick and fleshy mass of newly formed blood vessels and tissues, so dense at times as to hide the iris entirely from view. Pannus is nature's attempt to shield the cornea from the layers of trachomatous tissue formed on the lining of the lids. Great sensitiveness to light, subsequent attachment of portions of the conjunctiva to the cornea, and other disastrous complications are frequently found. With tens of thousands suffering from the ravages of trachoma, and in the realization that it is communicable, we can readily understand why it has become one of the most dreaded diseases in those sections where it has already established itself.

Fig. 1. A group of Navajo patients, most of whom are under treatment for trachoma. Many of them have come from a distance of a hundred miles or more to receive treatment. (Courtesy United States Indian Service.)

It is stated on good authority that ninety percent of the population of Egypt is afflicted with trachoma, and that a sound eye in that country is a rarity. History shows what a terrible scourge it may become whenever the opportunity is given it to spread. Within the last century alone thousands of English soldiers were rendered blind by it, and

[1]The following article is a resumé of a much more extensive treatise on trachoma recently prepared by the National Committee for the Prevention of Blindness, 130 East 22nd street, New York City, copies of which may be obtained upon application to the committee.

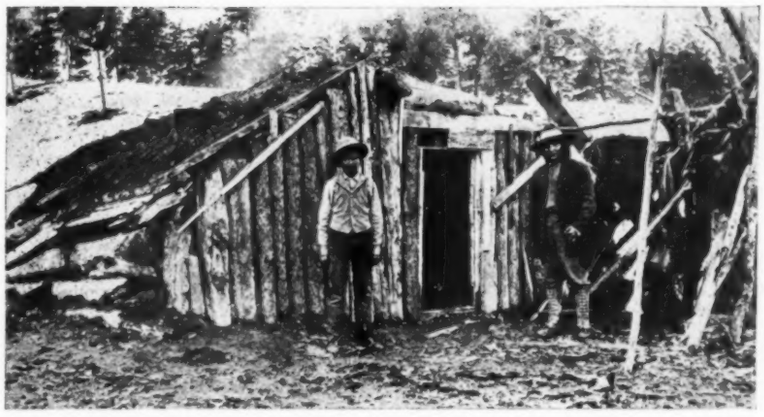


Fig. 2. Sunshine and fresh air cannot reach the interior of this Indian home. It provides a splendid place for trachoma and other diseases. (Courtesy United States Indian Service.)

the armies of other continental countries suffered frightfully in the same period. It is said that in Belgium one out of every five soldiers was affected with trachoma. In an effort to rid the army of the disease, the fatal procedure was adopted of dismissing the trachomatous soldiers to their homes, thus spreading the infection broadcast through the civil population. In view of the disclosures of possible suffering which may follow in the train of this disease, we should consider its eradication a public responsibility resting upon each one of us.

Just when or how trachoma became implanted in the United States will doubtless never be known, but it is evident that it was brought in from European countries. The records of the immigration department show that it has been found largely among the Syrian, Armenian, Italian, Polish, Lithuanian and Slovak races. Immigration by them has always been heavy, and their people are the ones who are turned back in largest numbers by our immigration inspectors. In 1897 trachoma was listed by the U. S. Public Health and Marine Hospital Service as "dangerous, contagious," and since that time great care has been exercised to exclude any alien infected with the disease. During the past ten years twenty-three thousand have been turned back, their dreams of a golden future in the land of liberty dispelled, while nearly thirty thousand were prevented from embarking on the other side by official or semi-official inspection which demonstrated the presence of trachoma.

Trachoma has spread in the mountain sections of Kentucky to such an extent that it became necessary to ask for Federal assistance to control it. During the past three years the United States Public Health Service therefore has opened three trachoma hospitals in the most seriously infected areas of Kentucky, and two more have been recently opened just over the eastern border of the state in Virginia and West Virginia. The latest survey by the Public Health Service cites thirty-three thousand as the approximate number of trachoma cases in Kentucky.

The situation among the Indians is pathetic and tragic. Of the three hundred and twenty-five thousand American Indians—all that remain—we find twenty percent, or sixty-five thousand, suffering from trachoma. In many of the Indian schools the percentage runs much higher; in one school in Oklahoma, for instance, eighty-eight percent of the pupils being found trachomatous. Soon after this condition was disclosed by surveys recently made, the United States Indian Service took steps to fight the disease, and now through a system of medical inspection, field service, hospital and nursing care, and education in the methods of prevention, it is believed that control of the disease has been secured in that field.

In our industrial centers, especially where great numbers of foreign workmen are herded together, living in unsanitary quarters, poorly ventilated, and with the fundamental principles of hygiene unknown, or unenforced, we frequently find a focus of trachoma infection. Such, for instance, where the conditions which were responsible for the outbreak among the employees of the Youngstown Sheet and Tube Co., Youngstown, Ohio, a year ago. Seventy-six cases of trachoma were found among the five thousand employees, and one hundred and seventy-five more were discovered in their families and among the school children. Here, too, the situation was deemed so serious that the United States Public Health Service was invoked to meet the emergency, and a hospital was established for the exclusive treatment of trachoma. Between February 9, 1914, and August 31 of the same year, 242 cases were treated, requiring 13,183 individual treatments, an average of fifty-five per patient. Almost needless to say, the town is now practically free from trachoma, and the conditions which were responsible for it are completely changed.

Fig. 3. What trachoma does. Mother blind; child, who contracted disease from parent, saved by prompt treatment.

It has been a matter of deep concern for years to discover the best means for the prevention and eradication of trachoma, and a résumé of the methods instituted by the United States Public Health Service will indicate the possibilities of successful eradication for any community which has the problem to solve.

Each of the three government trachoma hospitals in Kentucky has a ward capacity of not less than fifteen persons, and many more than that number are treated daily, an average day showing from sixty to ninety patients having come in for medical aid. The hospital staff includes a surgeon and two nurses, while in the more recently established trachoma hospitals in Virginia and West Virginia an additional visiting nurse has been included. The follow-up work in the homes of discharged patients is as important as the earlier relief extended, as by this means the dangers of reinfection can be explained to the people them-

selves, and unsanitary ways of living corrected. Explanation of these dangers, given in person by surgeon or nurse, accomplishes far more than the distribution of publications on the subject, although these, too, have their place, and have been distributed broadcast through many counties.

It may truly be said that prevention of trachoma is practically synonymous with the education of the public to its dangers, and means of spread, and not until there is improvement of industrial and housing conditions of the poor, not until the present social customs and habits and unhygienic mode of living in the infected communities is raised to a higher standard, can it be wiped out.

Soon after the establishment of the government trachoma hospitals in Kentucky, surveys of the schools or other suspected areas throughout the state were called for

Fig. 4. Entropion in case of long standing trachoma. (Courtesy United States Indian Service.)

in large number. Dr. John McMullen, United States Public Health Service, in charge of the work in Kentucky and the Virginias, has, with his assistants, made these surveys as requested. They have been productive of manifold benefits, as in connection with the examinations there have been established school clinics, where operative or other treatment was provided as needed, thus affording a means of clinical experience to those physicians who have not had previous opportunity to know trachoma at first hand. The diagnosis, methods of operating, medical treatment, etc., are explained and demonstrated in detail, the result being that cases of trachoma which may develop in ensuing months are recognized and promptly dealt with by the local health authorities. Again, the school examinations and clinics wake up the community generally and a large amount of publicity is naturally attendant upon these local surveys, thus giving the health authorities the opportunity to drive home the methods of prevention at the most psychological time.

During the year, cases are exhibited at teachers' institutes, showing various stages of the disease, from recent infection in a young child to the development of the complications hitherto mentioned in old age, totally blind as a result of lack of treatment. In this way the teachers themselves are educated to a realization of the dangers, and they accordingly become more keenly watchful for any symptoms among the children in their classes.

House-to-house visits have been made in great number. The hospitals are located in the best available buildings that can be rented in these small communities and each one is made a model from the standpoint of modern hygiene. It thereby serves as a constant demonstration in itself to all who come for treatment, and for the townspeople and those from surrounding communities.

When applying for treatment the patients are told the nature of the disease, and the necessity for using indi-

Fig. 5. Kentucky school child with trachoma. Five members of her family contracted the disease through her, one case ending in blindness.

vidual toilet articles; they are furnished with clean gauze handkerchiefs, individual towels, bed linen, cups, wash basins, etc. Absolute cleanliness is insisted upon, and a large percentage of the cases treated at the government hospitals have been sent home cured, and as an indication of the value of the educational propaganda, we find but a small percentage returning for further treatment as a result of reinfection.

The government trachoma hospitals have been placed in the needy districts merely as demonstration centers, and

Fig. 6. Everted lids, showing trachoma granules.

there has been no intention of having them kept there beyond the time when the state or locality could carry on the work. It is interesting to note that, owing to the activity of the Kentucky Society for the Prevention of Blindness, Miss Linda Neville, secretary, a plank appears this fall in the platforms of the Republican, Democratic and Progressive parties in Kentucky, pledging the support of each to the work initiated by the government and opening the way to the eventual continuation of the work by the state itself.

It is surprising at what small expense these little hospitals, which do such a large work, are maintained. Approximately six thousand dollars annually covers all ex-

penses for each, so that it may readily be seen that the financial burden is not too heavy for a community of any fairly large population and wealth to add to its budget. And the eventual economic saving to the state is so enormous that the cost of prevention and eradication in dollars and cents is hardly worth the counting. At present eighteen percent of the students enrolled at the Kentucky Institute for the Blind are there as a result of trachoma. The state, therefore, pays approximately $300 per pupil each year for education and maintenance, as against a cost of $30 per pupil in the schools for sighted children. The economic value of prevention is obvious.

If one were to summarize all the instructions as to how to avoid contracting trachoma, we would develop a brief list about as follows:

Keep in good physical condition.
Have large windows in your homes, which will admit plenty of fresh air and sunshine.
Sleep with your windows open, even in winter, and keep the room where you live, or study, well aired.
Do not use the family towel, especially in homes where there are cases of trachoma.
Have your own towel and handkerchief and don't let anyone else use them.
Always make sure that the wash basin is clean before using it.
Do not sleep with a person having sore eyes, nor use bedclothes that have been used by them.
Do not wear the clothing of others, nor use their eating utensils without previous cleaning.
Advise anyone with sore eyes to have them treated at once.

Practically the same recommendations have been made by the surgeons in charge of the Indian situation, and they have further adopted the expedient of printing large posters, which have been tacked in prominent places over the reservations and in the schools for Indian children, calling attention to the dangers from trachoma, and the ways of conveying the infection.

In conclusion, it is evident that trachoma is indeed a menace in our country. As Dr. Clark, of the United States Public Health Service, says, "When the disease arises in a young child he is debarred from the public schools at an age when the mind is most receptive, when the soil is in cultivation for the future harvest of intellectual usefulness. When it occurs in early manhood the door of professional study is practically closed. When defective vision or blindness results he has been prevented from laying up in the storehouse of his mind those mental pictures derived from the study of art, literature and science, among which his imagination could run riot to the solace of his declining years."

Nowhere is the trite saying, "Prevention is better than cure," more applicable than in the case of trachoma. It is highly important that communities where the disease has not as yet obtained a foothold, where to exist it must be imported, should protect themselves against its invasion by proper legislative action and frequent medical inspection.

The first and central unit of the new Methodist Hospital at Los Angeles, Cal., has been opened. The building cost $170,000 and contains, in addition to a complete operating suite, administration offices, etc., beds for 120 patients. The Methodist Hospital is said to be the only institution of the kind on the Pacific Coast which makes a flat rate to its pay patients. The charge for a room or bed includes everything usually classed by most hospitals as extras. Much charity work is done. One of the main aims of the administration is to eliminate all the objectionable features of institutional care and make the hospital as homelike as possible. Mr. Byron H. Wilson is general manager and Miss Charlotte Armstrong, superintendent.

DEPARTMENT OF LIFE EXTENSION

Conducted by EUGENE L. FISK, M. D.
Director of Hygiene, Life Extension Institute, Inc.
25 West Forty-Fifth Street, New York City.

How to Live

While a major part of the work of the Life Extension Institute consists in the physical examination of individuals—employees, insurance policyholders and others—to whom this preventive and improving service is extended, it is necessary to differentiate clearly the service involved in this health survey from mere mechanical physical examination. The psychology underlying the work must be fully appreciated before the information developed by these examinations can be correctly interpreted and their significance fully grasped.

The Institute's examinations are designed not merely to detect disease, but to assess, as it were, the value of the individual, his potential capacities, as well as his potential longevity.

Where direct medical treatment is needed to remove disability or to increase the efficiency and capacity for right living, the individual is urged to seek such treatment: where he simply needs assistance to a correct philosophy of life, the Institute's educational service and propaganda comes into play.

The principles and motives underlying the work of the Institute have been assembled in its forthcoming book, "How to Live." A few extracts from this book, written in collaboration with the entire hygiene Reference Board of the Institute, may be of interest to those who desire information or inspiration on these matters:

Former President Taft, in his foreword to the book, writes:

"To one who has been an eye-witness of the wonderful achievements of American medical science in the conquest of acute communicable and pestilential diseases in those regions of the earth where they were supposed to be impregnable entrenched, there is the strongest possible appeal in the present rapidly growing movement for the improvement of physical efficiency and the conquest of chronic diseases of the vital organs.

"Through the patient, intelligent and often heroic work of our army medical men, and the staff of the United States Public Health Service, death rates supposedly fixed have been cut in half.

"While it is true that to the public mind there is a more lurid and spectacular menace in such diseases as smallpox, yellow fever and plague, medical men and public health workers are beginning to realize that, with the warfare against such maladies well organized, it is now time to give attention to the heavy loss from lowered physical efficiency and chronic, preventable disease, a loss exceeding in magnitude that sustained from the more widely feared communicable diseases.

"The insidious encroachment of the chronic diseases that sap the vitality of the individual and impair the efficiency of the race is a matter of increasing importance. The mere extension of human life is not only in itself an end to be desired, but the well digested scientific facts presented in this volume clearly show that the most direct and effective means of lengthening human life are at the

same time those that make it more livable and add to its power and capacity for achievement.

"Many years ago Disraeli, keenly alive to influences affecting national prosperity, stated: 'Public health is the foundation on which reposes the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman.' It may well be claimed that the care of individual and family health is the first and most patriotic duty of a citizen.

"These are the considerations that have influenced me to cooperate with the life extension movement, and to commend this volume to the earnest consideration of all who desire authoritative guidance in improving their own physical condition or in making effective the knowledge now available for bringing health and happiness to our people."

The introduction strikes the key-note of the Institute's campaign for better living. The purpose of the Life Extension Institute embraces the extension of human life, not only as to length, but also, if we may so express it, as to breadth and depth. It endeavors to accomplish this purpose in many ways, but especially through individual hygiene.

Thoroughly carried out, individual hygiene implies high ideals of health, strength, endurance, symmetry, and beauty; it enormously increases our capacity to work, to be happy, and to be useful; it develops, not only the body, but the mind and heart; it ennobles the man as a whole.

We in America inherit, through centuries of European tradition, the medieval indifference to the human body, often amounting to contempt. This attitude was a natural outgrowth of the theological doctrine that "the flesh is in league with the devil," and so is the enemy of the soul. In the middle ages saintliness was often associated with sickliness. Artists, in portraying saints, often chose as their models pale and emaciated consumptives.

We are beginning to cut loose from this false tradition and are working toward the establishment of more wholesome ideals. It is probably true, for instance, that the man or the woman who is unhealthy is now handicapped in opportunities for marriage, which may be considered an index to the ideals of society.

A great health movement is sweeping over the entire world. Hygiene has repudiated the outworn doctrine that mortality is fatality and must exact, year after year, a fixed and inevitable sacrifice. It aims instead "to set free human life by applying modern science. A science which has revolutionized every other field of human endeavor is at last revolutionizing the field of health conservation.

The practice of medicine, which for ages has been known as the "healing art," is undergoing a gradual but radical revolution. This is due to the growing realization that "an ounce of prevention is worth a pound of cure." As teachers and writers on hygiene, as trainers for college athletes, as advisers for the welfare department of large industrial plants, and in many other directions, physicians are finding fields for practicing preventive medicine. Even the family physician is in some cases being asked by his patients to keep them well instead of curing them after they have fallen sick.

Furthermore, the preventive methods of modern medicine are being applied by the people themselves, as witness the great vogue today of sleeping out of doors; the popularity, not always deserved, of health foods and drinks; the demand for uncontaminated water supplies, certified milk, inspected meat and pure foods generally; the world-wide movement against alcohol, and the legislation to correct wrong conditions of labor and to safeguard the laborer.

Labor itself, today, is being held in honor, and idleness in dishonor. Ideals are being shifted from those of "leisure" to those of "service." Work was once considered simply a curse of the poor. The real gentleman was supposed to be one who was able to live without it. The king, who set the styles, was envied because he "did not have to work," but had innumerable people to do work for him. His ability to work, his efficiency, his endurance were the last things to which he gave consideration. Today kings, emperors, presidents are trying to find out how they can keep in the fittest condition and accomplish the greatest possible amount of work. Even among society women, some kind of work is now "the thing."

One of the most satisfying tasks for any man or woman today is to take part in this movement toward truer ideals of perfect manhood and womanhood.

There should be a keen sense of enjoyment of all life's activities. As William James once said, simply to live, breathe and move should be a delight. The thoroughly healthy person is full of optimism; "he rejoiceth like a strong man to run a race." We seldom see such overflowing vitality except among children. When middle life is reached, or before, our vital surplus has usually been squandered. Yet it is in this vital surplus that the secret of personal magnetism lies. Vital surplus should not only be safeguarded, but accumulated. It is the balance in the savings bank of life. Our health ideals must not stop at the avoidance of invalidism, but should aim at exuberant and exultant health. They should savor not of valetudinarianism, but of athletic development. Our aim should be, not to see how much strain our strength can stand, but how great we can make that strength. With such an aim we shall, incidentally and naturally, find ourselves accomplishing more work than if we aimed directly at the work itself. Moreover, when such ideals are attained, work instead of turning into drudgery tends to turn into play, and the hue of life seems to turn from dull gray to the bright tints of well-remembered childhood. In short, our health ideals should rise from the mere wish to keep out of a sick bed to an eagerness to become a well-spring of energy. Only then can we realize the intrinsic wholesomeness and beauty of human life.

The details of the Institute's suggestions in "How to Live" are grouped after the following subdivisions or rules:

I. Air

1. Ventilate every room you occupy.
2. Wear light, loose and porous clothes.
3. Seek out-of-door occupations and recreations.
4. Sleep out, if you can.
5. Breathe deeply.

II. Food

6. Avoid overeating and overweight.
7. Eat sparingly of meats and eggs.
8. Eat some hard, some bulky, some raw foods.
9. Eat slowly.

III. Poisons

10. Evacuate thoroughly, regularly and frequently.
11. Stand, sit and walk erect.
12. Do not allow poisons and infections to enter the body.
13. Keep the teeth, gums and tongue clean.

IV. Activity

14. Work, play, rest and sleep in moderation.
15. Keep serene.

Upon careful analysis, the rules in "How to Live" are, after all, simple. It is their persistent neglect that is responsible for so much misery and premature death. It is important to arouse the individual to a sense of responsibility in the observance of these rules, and as an extremely important and necessary preliminary—to ascertain his individual need so that the rules may not be blindly followed, but adapted to each particular case.

SOCIAL HYGIENE
VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary, The American Social Hygiene Association, 105 West Fortieth Street, New York City.

Proofs of Progress

Evidence of steady progress in the administrative control of syphilis and gonorrhea in the United States is contained in the annual reports of many health departments which have been appearing in print since the close of their fiscal years in July. As illustrations, the following extracts are quoted:

THE MASSACHUSETTS STATE DEPARTMENT OF HEALTH

On June 1, 1915, this department announced the establishment of a Wassermann laboratory. Within two months the following statement was published[1]:

"During the period from June 1 to July 24, 1,451 specimens have been examined from twelve of the twenty-eight state institutions and from three private hospitals. At the same time the Wassermann laboratory has been completely equipped and the routine so well established that it is now able to extend its services to private, charitable and municipal hospitals and institutions. In addition to this the State Department of Health is now ready to offer the facilities of the Wassermann laboratory to patients of private physicians.

"The service for patients of private physicians may be obtained through two channels: (1) through district health officers, and (2) through the laboratory directly. It is required in each instance that the patient be sent either to the district health officer or to the Wassermann laboratory directly with a letter from his physician stating the patient's name, residence and occupation. Specimens for examination[2] will be taken at the Wassermann laboratory on Tuesdays and Thursdays, between 3:00 and 5:00 p. m., in Building D, Room 103, of the Harvard Medical School, where the Wassermann laboratory is situated. It will be more convenient for patients living some distance from the Wassermann laboratory to have the specimens for examination taken by the district health officer. The physician should make an appointment with the nearest district health officer and then refer the patient to him with a letter stating the patient's name, residence and occupation. No charge is made for taking the specimens or making the test.

"The importance of the Wassermann test as an aid in the diagnosis of disease is now well recognized, and physicians and institutions are invited to avail themselves of the opportunity to have the Wassermann test made as a routine examination on the blood of their patients and on spinal fluids where the facilities permit. In this way the diagnosis of syphilis may be definitely established in approximately 90 percent of the instances where it exists, and the proper treatment given. Such a procedure should decrease the incidence of those obstinate later manifestations of the disease which affect the heart, the blood vessels, the brain and the spinal cord, the results of which are usually serious and often incurable, or may only be relieved after great suffering and expense to the patient. These late syphilitic manifestations are the most frequent causes of untimely death of otherwise strong and hearty persons.

"Wassermann examinations have an important bearing upon eugenics. The incidence of congenital syphilis with its high infant mortality and a large number of the premature births due to syphilis are preventable if physicians or institutions in charge of pregnant women would have the Wassermann test made on every woman during the first months of pregnancy. Specific treatment could then be given promptly as a curative and preventive measure.

"It is important to have a Wassermann test made on patients in whom tuberculosis or cancer is suspected; in the former event, with the idea of preventing unnecessarily prolonged residence of syphilitics in the state sanatoria, which constitutes an unwarranted financial burden upon the community, and which exposes the syphilitic to infection with tuberculosis, and the tuberculous patient to infection with syphilis. In cases of suspected cancer or other obscure malady it is important to rule out syphilis by one or more Wassermann tests, a plan which is now followed in the large and efficient private and charitable hospitals."

THE NEW YORK CITY DEPARTMENT OF HEALTH

This department, which has been the pioneer in effective work with venereal diseases as a public health problem, has issued[3] a summary of its work for 1914, including a review of the department's progress in this field since April 4, 1911. The point of view of the New York City Board of Health is interesting and of vital importance to the department's success. The principle is laid down that all infectious and preventable diseases and everything pertaining to their diagnosis and supervision properly fall within the scope of its activities. It is maintained that this attitude finds justification in the fact that it is essential for the control of any infectious disease that the diagnosis be made readily accessible to all members of the community. Applied to venereal diseases this means that the greater the number of existing syphilitics and gonorrheics diagnosed, and the more rapidly this is done—thus enabling them to be placed immediately under treatment—the more certain will be the control of the disease. To carry this into effect, the department holds it to be necessary that facilities for diagnosis of all infectious preventable diseases should be provided.

"Accordingly, the Health Department laboratories perform the Wassermann reaction, the complement fixation test for gonorrhea, examine smears for treponema and gonococci and make cultural examinations of urinary sediments and urethral discharges. The tests are made free of any cost. They are made for physicians and medical institutions, only to whom the findings are reported. In order to facilitate the transferring of specimens the diagnostic outfits are distributed to some six hundred stations in drug stores and hospitals scattered throughout the city, from which stations they are daily collected and conveyed to the department laboratory. The extent to which physicians and hospitals have availed themselves of the opportunity may be gauged from the fact that, during 1914, 59,614 specimens were received for examination.

"By far the majority of cases were recorded through the laboratory. More than 75 percent of the specimens were received from private physicians and a large percentage of the positive cases would in all probability not have been reported if this medium did not exist. Not that the profession in our city is any more delinquent than elsewhere, but we do not all as yet subscribe to the view that the venereal diseases are to be dealt with precisely as is any other group of contagious diseases. It is thus seen what an important adjunct the laboratory constitutes in our plan.

"With the view of rendering the physicians all possible aid, there have been established diagnostic clinics, three in number; two in Manhattan and one in Brooklyn, where patients may be sent by their physicians or institutions for the blood-letting operation, smears, etc. The wisdom of this procedure may be judged from the attendance recorded, the number for the year 1914 being 19,297.

"Principally, as an educational factor, an advisory

[1] Public Health Bulletin, State Department of Health, Massachusetts, July, 1915.

[2] Lumbar puncture for spinal fluids is not made by the laboratory or district health officers because this procedure requires the facilities of a hospital or a private house with a trained attendant.

[3] Department of Health, City of New York. Venereal Diseases: Their Administrative Control, by Louis Chargin, M. D., Chief of Division of Venereal Diseases, No. 33, August, 1915.

clinic was established, which acts as a sort of clearing house for venereal diseases. There, free advice is given to applicants regarding the nature of these diseases, the danger of improper treatment is pointed out, the necessity for strict adherence to their physician's orders, the danger of consulting quacks, the importance of abstention while diseased, etc. Educational pamphlets, describing the diseases in simple language, and cards of instruction are issued. These are reproduced at the end of this article. Under no circumstances is treatment of any character undertaken. Cases that require treatment and can not afford the services of a private physician are referred to a number of accredited clinics in various parts of the city. These clinics, in order to be placed upon the approved list, must comply with the stringent requirements of the Genito-Urinary Section of the Associated Out-patients' Clinics of the City of New York. Those who can afford private treatment are referred to their family physicians, or if they have none, they are given a list of the approved clinics and advised to choose one or another of the attending physicians of the clinics.

"During the past six months 1,389 new patients attended our advisory clinic.

"An analysis of the chart shows that the males predominate—less than five percent were female, but this is a palpable improvement over the figure for the preceding six months, when but one percent were of the women. Presumably the female element, because of fear of publicity, reluctantly attend. It is interesting to note that about thirty percent of our applicants were married men, which, however, for the most part give histories of infection antedating their marriage. Of the 1,389 tabulated cases, 479 were either suspected or actual luetics, 572 suspected or actual gonorrheics, 128 suffered from sex neurosis of one type or another, and 210 were other than sex diseases. Twenty percent of our applicants were skilled laborers, as compared to 80 percent unskilled. Of the total number about 50 percent were out of employment for varying periods at time of consulting us. It was found necessary to refer 751 for treatment, *i. e.*, about 54 percent of the total number, and of these 486 were referred to clinics, the large majority of these being out of work or earning such small salaries as to make it a hardship to consult private physicians. An attempt was made to elicit as carefully as possible the probable source of infection, dividing this into public, clandestine and otherwise. Under the last we include such as were transmitted in wedlock, those accidentally infected and those of congenital origin. Of the 803 listed, 578, *i. e., circa* 70 percent, obtained their infection through the public prostitute; 205, *i. e.*, 25½ percent clandestinely, and 20, or 2½ percent, fell under the third group.

"Part of our educational campaign consists in combating quackery. This is one of the most difficult problems with which we have to contend. Their victims are many, usually foreigners (with a heavy admixture of apparently intelligent Americans) whom they find easy dupes. What could not be said regarding the methods of this unscrupulous class! Two possible means of attack present themselves. One is to legislate them out of existence. There exists a law which empowers the regents to revoke the license of practitioners found guilty of fraud, deceit, etc., But how difficult it is to prove fraud! The board of aldermen have passed a bill making persons whose assertions represent untruths, etc., liable to a fine. An attempt is being made to test it out. The second means of attack is to divert prospective victims from these quacks. The recognized medium through which the quacks are enabled to ply their nefarious trade is publicity. This takes the form of alluring advertisements in the public press, the posting of similarly worded signs in the toilets of saloons and exhibitions in privately controlled anatomical museums. Our problem would be solved if certain of our newspaper owners were public spirited enough (the revenue from the source is considerably in excess of $100,000) to refuse these ads. This, as a matter of fact, has occurred in Chicago, where, in consequence of an investigation undertaken by the *Tribune*, a crusade was launched exposing their methods, with the happy result that there is no longer any quack problem in the western metropolis.

"On the principle that publicity could best be counteracted with publicity, the department has had inserted in some of the newspapers that accept the quack notices a four-line advertisement, which reads:

"'Free advice regarding venereal diseases can be obtained at the Department of Health, No. 149 Center street, Room 207, from 9:00 a. m. to 12 m., daily, Sundays and holidays excepted. Consultation strictly confidential.'

"Insignificant as this ad is in size, it is gratifying to note that it is yielding encouraging results. During the first six months of 1915, of a total of 1,389 applicants to the Advisory Clinic, 316 came in response to the ad. Another means which is proving of inestimable value is the posting of venereal disease signs in suitable locations, such as toilets, bulletin boards of railroad stations, terminals, factories, etc. These signs read:

"VENEREAL DISEASES
Confidential advice
regarding
Gonorrhea, Syphilis
and
Sex Diseases
Can be obtained at Room 207,
The Department of Health,
149 Center Street,
9:00 a. m. to 12:00 m., daily,
Sundays and holidays excepted.
— Avoid —
Advertising Specialists and
Patent Medicines.

"During the same six months' period 446 individuals consulted us through this sign. Of the total number of applicants, 233 had consulted one or more quacks.

"No system of control can be complete without ample hospital and dispensary facilities for the treatment of indigent infectious cases. Although we must not lose sight of the fact that those with infectious lesions are properly hospital cases, the venereal diseases are essentially well adapted to dispensary treatment. This somewhat simplifies the problem."

THE VERMONT STATE BOARD OF HEALTH

The following "Act for the Prevention of Venereal Diseases" became effective as a state law in June, 1915:

"Section 1. A person who, knowing himself to be infected with gonorrhea or syphilis, marries shall be fined not more than five hundred dollars or imprisoned in the house of correction for not more than two years.

"Sec. 2. A person who, while infected with gonorrhea or syphilis, has sexual intercourse shall be fined not more than five hundred dollars or imprisoned in the house of correction for not more than one year.

"Sec. 3. A physician who knows or has reason to believe that a person whom he treats or prescribes for is infected with either gonorrhea or syphilis shall immediately report the name, address, age and sex of such person to the secretary of the State Board of Health, for which report he shall receive the sum of twenty-five cents, to be paid by the State Board of Health. A physician who fails to make such report shall be fined not more than two hundred dollars.

"Sec. 4. The State Board of Health shall make and enforce such rules and regulations for the quarantining and treatment of cases of gonorrhea and syphilis reported to it as may be deemed necessary for the protection of the public. Said board shall not disclose the names or addresses of such persons reported or treated to any person other than a prosecuting officer or in court on prosecutions under this act.

"Sec. 5. During the months of January and of July of each year said State Board of Health shall pay to physicians all sums due for reports made under the provisions of this act.

"Sec. 6. The sum of one thousand dollars is annually appropriated for carrying out the provisions of this act.

"Sec. 7. Section 2 of No. 218 of the Acts of 1912 is hereby repealed."

The Vermont State Board of Health has issued no report as yet upon its experience in enforcing this law, but has established a laboratory service for the diagnosis of syphilis and gonococcus infections and has provided for the reporting of cases and the correspondence in relation thereto.

QUERIES AND ANSWERS

Recipe for Whey

To the Editor of THE MODERN HOSPITAL:

Can you give us a recipe for making whey for infant feeding, as it should be made, and is ordinary whey, obtained by straining "clabbered" milk, the right kind?

A CHILDREN'S NURSE.

The following is a very simple recipe for making milk whey, prescribed by the doctors in certain intestinal diseases of children:

Add to 1 pint of fresh lukewarm (98° F.) milk 1 teaspoonful of liquid rennet. Allow milk to stand in warm place until firmly coagulated. When the curd has formed, beat up with a fork and allow it to stand for some moments until the curds have shrunk considerably; strain off whey through cheese-cloth or silk; then heat whey to a temperature of 150° F., thus destroying further action of rennet.

You may use ordinary "clabber" milk for the same purpose, but you had better heat to 150° F. as above after straining, as there is as much bacterial action in the naturally formed "clabber" as in that artificially made.

Stain for Laboratory Woodwork

To the Editor of THE MODERN HOSPITAL:

Somewhere I saw a recipe for staining or painting the table and bench tops in the laboratory so that chemicals would not discolor them. Can THE MODERN HOSPITAL give the recipe and tell us whether it is all right to use it?

A LABORATORY DIENER.

The stain for laboratory benches and counters that you saw was made up after the following formula:

FIVE SOLUTIONS

(a) Potassium chlorate ..... 10 gm.
Copper sulphate ..... 10 gm.
Water .....1,000 c. c.

Apply two coats of the hot solution. Allow first to dry before applying the second. Allow to dry and wash with water.

(b) Anilin hydrochlorid ..... 12 gm.
Water .....1,000 c. c.
Apply one coat. Allow to dry.
(c) Potassium chlorate, 10 percent in water.
Apply one coat. Allow to dry.
(d) Hydrochloric acid, 5 percent in water.
Apply one coat. Allow to dry and wash with water.
(e) Linseed oil.
Iron in with hot iron.

Sterilizing Water for Surgical Purposes

To the Editor of THE MODERN HOSPITAL:

A question has come up with us as to the proper method to pursue when sterilizing water for surgical purposes. It seems that some doctors claim that if water is boiled at 212° F. for a few minutes it is sufficiently sterilized for all surgical work. Others claim that water must be heated with steam under pressure (15 to 20 pounds) to be sterile. Which is correct? If merely boiling water a short time will destroy all the germs and spores, what good are the very expensive water sterilizers?

Dr. James W. Jobling, Professor of Pathology, Vanderbilt University Medical School, replies to this question as follows:

"I think the question of the sterilization of water for surgical purposes has been definitely settled. All water used for this purpose should be sterilized under pressure, as the spores of tetanus bacilli and of other similar organisms are not killed by boiling unless it is done three days in succession, and then it should be boiled for a period of forty-five minutes or more each day. Of course tetanus spores are not found in every specimen of water, but we have no practical method of determining when they are or are not present. I should consider the surgeon using boiled water for surgical purposes criminally negligent, except, of course, in an emergency. I understand the question refers to water used in hospital operating rooms."

Bacteria and the Milk Supply

To the Editor of THE MODERN HOSPITAL:

We contract in the city, from a distributing company, for our milk supply, and are supposed to get milk of low bacterial count. Our doctors are dissatisfied with our milk, especially on the children's service, although the city laboratory reports a bacterial count as low as 10,000.

Can THE MODERN HOSPITAL give us a hint as to where the trouble lies? It has been suggested that perhaps the milk company's pasteurizing is faulty.

A CITY HOSPITAL.

Bacterial count has nothing to do with milk that has been pasteurized; every microorganism may have been destroyed in the process of pasteurization and yet the milk be deadly for sick children. That is the whole trouble about pasteurization; by killing the bacteria it can destroy all the evidence of bad milk; that is, milk that has been kept for thirty-six or forty-eight hours and that may have five or ten million bacteria per c. c., and that is then well pasteurized, may not show a single bacillus and yet be rank poison by reason of the toxins it contains, and they are not rendered harmless by the pasteurizing process, and they are not to be seen under the microscope.

Your trouble probably is that your milk is too old when it is pasteurized, or it may be possible that there is an infection in the herd somewhere; not very long ago a cow with a streptococcic abscess of the udder, and milked with the other cows, infected a large area of one of the great cities of the country; this cow's milk was added to that of several hundred other cows and the infection could be traced over a large area by the number of people who got streptococcic sore throats.

You had better have your milk very carefully analyzed, not only for the number of lactic acid bacteria, but for streptococcus and colon and other harmful forms. The freshness of the milk can be ascertained by making the acid test; bacterial ferments are coincident with the acid character of the milk.

The Cost of a Dispensary

To the Editor of THE MODERN HOSPITAL:

We are being urged to open a dispensary in connection with our hospital, and while we feel that it would be a good thing for the community to have a dispensary, our finances are so limited that we are afraid of the expense.

Our city has a population of 12,000, and our 100-bed hospital is the only institution for acute cases; we are obliged to do a good deal of charity work for which neither the city nor county will pay.

About how much would it cost to run a dispensary, and what would the effect be on the hospital? A TRUSTEE.

It is impossible to tell what a dispensary would cost you without knowing how you expected to conduct it; it can cost you a great deal, or nothing at all; but there are compensations in the conduct of a dispensary that under conditions such as you outline in your hospital should make the dispensary a negligible quantity in the matter of expense. For instance, you say you are compelled to do a good deal of charity work for which the city and county

will not pay. This being the case, it will be desirable for you to get these patients out of the hospital at the earliest possible moment and have them return to the dispensary or out-patient department for convalescent treatment, dressings and the like. In this way you will be shortening the stay in the hospital of your charity patients and therefore cut down the amount of money their keep in the hospital would cost, or you can do a far larger amount of work, some of which would be remunerative.

Most dispensaries are now charging a small fee for their services to those who can pay even a few cents; in some dispensaries this charge is ten cents, in others twenty-five, and there is no doubt that the latter amount would cover reasonable dispensary operations.

If, as you say, your hospital is the only one in your 12,000 community doing acute disease work, you certainly ought to have a dispensary and an out-patient service; you will be doing so much more for your community in the conduct of a dispensary and out-patient service that it is inconceivable that the community will not appreciate what its hospital is doing and be willing to pay for it—at least your own supporters will pay for it if the city and county will not, and it will not be very long after such service is instituted before the city and county both will be compelled to pay their share by the force of public opinion.

You might begin in a small way; send your operative cases and your convalescents home a little sooner than you have been doing, and let them come back for dressings and treatment and for observation. Such dressings will not cost any more than if you were using them on the same patients in the hospital itself, nor will the medicine you give to convalescents amount to any more than you would have to give if the patients were still in the hospital, and you will not be at the expense of their food and other attentions. By all means make a start in this way.

Nurses as Anesthetists

To the Editor of THE MODERN HOSPITAL:

Some of our doctors are urging us to put in graduate nurses for anesthetists instead of the interns; others think nurses, without medical training, cannot become competent anesthetists. We know the intern service is not satisfactory, and many of the men are very poor anesthetists. What is the compromise? I doubt whether we could afford a sufficient number of graduate nurse anesthetists to give all the anesthetics, unless we could find other work for them when the operating rooms were not working.

A SURGICAL NURSE.

Some of the best surgeons in the country are using graduate nurses specially trained as anesthetists; but the special training that these young women must undergo gives them nearly all that the intern has, and the experience and practice besides. There is no question that the deftness and the quick perception of a highly trained woman will fit her to size up nearly every situation during the course of an anesthetic, and with every anesthetic she gives her experience broadens, and she soon comes to be quite efficient and able to meet any contingency as well as the best medical man, to say nothing of the poorly trained intern.

It seems to us that the fact that she is a nurse has nothing to do with the ability and efficiency of an anesthetist; it is a question of careful training and attention to business, and there is no doubt that a well trained woman, serving at the work year in and year out, becomes a far better anesthetist than the average intern, considering his short service, can possibly be.

The great trouble has been that few hospitals can afford to employ graduate nurses as anesthetists because the working hours are so short, and there is nothing else for them to do at other times, so that their services become expensive. If the arrangement of work in the hospital can make it possible for one or two, or any sufficient number of graduate nurses to be employed during the morning in giving anesthetics, and otherwise during the rest of the day, such an arrangement ought to be most effective. The intern, of course, is doing something else before and after the operating hours and his time is fully taken up—besides, he is not paid a salary.

Efficiency of Formaldehyde Fumigation

To the Editor of THE MODERN HOSPITAL:

We fumigate our mattresses, blankets and pillows by putting into a small room and burning formaldehyde and permanganate of potash in the room. The mixture is 1 pound of 40-percent formaline to 8 ounces of permanganate, and the space in the fumigation room is about 6 by 7 feet, and 7 feet high. The things are left in for 12 hours. Is this fumigation effective?

A PHARMACIST.

Your formula for formaldehyde fumigation is that usually practised and is efficient where any formaldehyde fumigation will serve the purpose. You do not say whether your mattresses are cotton felt or curled hair, the latter being very much easier to fumigate because of the open character of the hair and the ease of penetration. But in any event it is altogether probable that you are not sterilizing your fabrics by the method you employ. In the first place, you say nothing about the temperature of your chamber, nor is there any reference to the humidity. If your humidity is very high, almost to the point of saturation, and if the temperature is well up, your fumigation will be likely to be more effective. The degree of humidity is particularly important.

Major E. L. Munson, Medical Corps, United States Army, several months ago made some careful studies of fumigation, and his results were published in the November, 1913, number of THE MODERN HOSPITAL, page 179. His fumigation was accomplished in small, tight rubber or paper bags, and it seems he was able to destroy vermin in soldiers' clothing and also harmful microorganisms.

But we have almost come to the opinion, at least for hospital purposes, that fumigation is impracticable except where the goods can be placed under artificial pressure, as for instance, in a regular disinfector, using a combination of high pressure steam and formaldehyde. The only safe way for you to sterilize your mattresses and pillows effectively is to place them in a disinfector, as above indicated. If you have a hot air tumbler in your laundry you can soak your pillows in a formaldehyde or phenol solution; then put them through your washers in the regular way, to get out the smell and dirt, and then put them through the hot air tumbler. This will bring the feathers back to their original fluffiness.

Your blankets should be soaked in a 3-percent phenol solution over night and then sent to the laundry, where they will be washed in warm water in the regular way.

If you cannot buy a disinfector, which costs about $1,000 for the smallest size, you had better take your hair out of the ticking, put it through a steam chamber, wash the ticking separately, as an infected fabric, and make it up again. You cannot sterilize felt mattresses in this way and had better destroy them when they become infected.

Shall Small Hospitals Teach?

To the Editor of THE MODERN HOSPITAL:

We have a general hospital of 100 beds in a city where there is a good university medical school; we have no connection, either with the university or the medical school attached to it; but our doctors think we should let the medical school hold clinics in the hospital and use the patients for teaching purposes.

What does THE MODERN HOSPITAL think about this, and

will such an arrangement be likely to expose the hospital to a reputation in the community for experimenting on patients? One or two of our trustees are a little in doubt about the desirability of such a connection.

AN R. N. SUPERINTENDENT.

Your trustees should have no misgivings in the matter of the advantages to be derived by the hospital from connection with a good medical school; there is no possibility that the community will accuse your hospital of using your patients for experimental purposes because the faculty members use them for clinical material. As a matter of fact, patients appreciate quite well the advantages to be gained by them from careful study at the hands of men who are good enough to be on medical school faculties; if the patients do not know this at first they very soon learn that where they are used as clinical material, more study is given to their cases, more care is exercised, both by visiting physicians and interns, and more work is done to make correct diagnosis of their diseases, and in their treatment.

Nor should there be the slightest friction between the school and the hospital; the hospital has its administrative functions to perform; it has its finances to look after and its discipline and order to maintain; and these things should have no concern for medical men in charge of patients. These medical men will want, and they have a right to expect, that their orders will be followed concerning the professional care of patients, and it will be the duty of the hospital to see that their orders are carried out.

Sometimes the teachers in the schools will ask for things that the hospital cannot afford, but they will nearly always be guided in their orders by the hospital's financial limitations, and the spirit of team work should result in a most happy and desirable connection.

Competence of Frozen Section Work

To the Editor of THE MODERN HOSPITAL:

Our laboratory doctor and the surgeons are asking for a frozen section outfit to be located in the operating suite, so that tissue can be examined during the operation in cases of doubtful malignancy; not long ago I heard one of the editors of THE MODERN HOSPITAL say that frozen section work ought not to be done, as its findings often gave a feeling of security in regard to diagnosis not borne out by the facts as later developed on deeper and more careful sectioning.

Does THE MODERN HOSPITAL feel that frozen section work ought not to be done and can our surgeons be convinced of that fact? A. B., OHIO.

Perhaps the particular editor of THE MODERN HOSPITAL to whom you refer did not make himself quite plain, although there is a great deal of truth in the statement which you understood him to make.

Thoroughly efficient laboratory directors, especially in large hospitals, do not like to do frozen section work; they claim that their findings must always be based on superficial investigation—that is, they take a piece of tissue, make a few sections at some particular part of it and put this under the microscope. They are never able, in this hurried way, to go through the whole tissue that has been removed, making sections here and there and analyzing them critically; therefore, it can easily happen, and it has very frequently happened, that the particular sections of tissue they happened to examine showed a perfectly harmless, as the surgeons call it, benign growth; whereas if they went deeper they would and often do find malignant areas. In the case of frozen section work, the patient is on the table under the anesthetic and the operation waits while the investigation goes on; it must, therefore, be very hurried in character. The purpose of the frozen section is to help the surgeon in making his diagnosis so that he may know whether the operation he has already done is sufficient, or whether, as in the case of a mammary tumor, he should go into the axilla and dissect out glands that are probably involved. If the inquiry is superficial and it happens that the pathologist does not find malignancy under the microscope, the surgeon is likely to terminate his operation and feel satisfied that he has removed all necessary tissue. Some good pathologists think that good surgeons, if they were depending on their own gross evaluation of the case, would come nearer judging correctly than if they gave credence to the frozen section findings.

On the other hand, some of the best surgeons in the country practice frozen section work and have a small equipment under the direction of a good pathologist present while they are operating, especially in cases where they know the diagnosis is in doubt.

It seems to us that this is rather a case for individual preference and judgment on the part of your surgeons, and if they feel that they can benefit by such an equipment as they are demanding, and if you have a pathologist in whom they have confidence you had better give them the equipment, as it does not cost a great deal; probably $50 will give you as complete an outfit as you will need; the balance of the equipment is in the ability of the men in charge.

The Privilege of Giving

The Children's Hospital of Philadelphia is making a campaign to raise half a million dollars for other units of their new hospital group. With other literature, they have sent out recently the following card, which is worthy of a wide circulation:

Imagine a rose that would say to itself: "I cannot afford to give away all my beauty and sweetness; I must keep it for myself. I will roll up my petals and withhold my fragrance."

But, behold, the moment the rose tries to store up its colors and treasures of fragrance, to withhold them from others, they vanish. The colors and fragrance do not exist in the unopened bud. It is only when the rose begins to open itself, to give out its sweetness, its life, to others that its beauty and fragrance are developed.

So human selfishness defeats its own ends. He who refuses to give himself for others, who closes the petals of his charity and withholds the fragrance of his sympathy and love, finds that he loses the very thing that he tries to keep. The springs of his manhood dry up. His finer nature becomes atrophied. He grows deaf to the cries of help from his fellowmen. Tears that never are shed for others' woes sour to stinging acids in his own heart.

Refuse to open your purse, and soon you cannot open your sympathy. Refuse to give, and soon you will cease to enjoy that which you have. Refuse to love, and you lose the power to love and be loved. Withhold your affections, and you become a moral paralytic. But the moment you open wider the door of your life and, like the rose, send out without stint your fragrance and beauty, you let the sunshine of life into your own soul.

Prosecutions Under Sherley Amendment of Food and Drug Act

The United States Department of Agriculture announces more than fifty successful prosecutions under this amendment, prohibiting false and fraudulent claims as to curative or therapeutic effects of drugs or medicines, and officials of the department are firmly convinced that the most drastic measures are necessary to eliminate the evils of the patent medicine traffic.

NEW INSTRUMENTS AND APPLIANCES

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.

A New Microscope Lamp

A microscope lamp should be as small and compact as possible; the light source should have the requisite intensity to cover adequately the entire range of work, not excepting oil immersion; the adjustments should be most simple and should permit of the lamp being used with or without the mirror, and also above the stage for the illumination of opaque objects.

The designers of the lamp illustrated here, the Bausch & Lomb Optical Co., claim that the new model fulfils all of these conditions. The illuminant is a 15-watt Mazda lamp, enclosed in a cylindrical metal shade. Current can be drawn from any convenient lamp socket on a 110-volt

Bausch & Lomb new microscope lamp.

circuit, direct or alternating, without the use of rheostat or transformer.

A special feature of this new lamp is the daylight filter. The filter is one which the makers have designed to give the clear, white illumination of natural daylight, when used with the Mazda lamp on this outfit. The color rendering is so true and the consequent quality of the image so excellent that it is scarcely possible to distinguish between this illumination and natural daylight, even with the most trying specimens. Not only is this device of value in bringing out the true color values, but it also improves the definition, as is markedly noted in the case of red stains, which are very poorly rendered by artificial light. The flask containing the filter acts as a spherical condensing lens. It is securely mounted in a metal collar, which is readily removed for the substitution of a regular condensing lens, if desired. If the filter evaporates after long use, it is easily replenished, the ingredients being found in any laboratory or apothecary's shop.

A Convenient Window Guard

Hospitals have been looking for years for a window guard that would secure patients, and at the same time not give the institution the appearance of a barred prison. All sorts of devices have been employed, some of them unsightly, some bunglesome to handle, and some insecure.

Fig. 1. The Security window guard.

The "Security" guard is offered by the Security Window Guard Company, of Chicago, as a practical answer to the hospital people who have been looking for something of the kind. The illustrations show the mechanism better than any description. It is a metal barred sash fastened to the inside of the window, is self-adjusting when the window is raised, and can be instantly shifted for washing

Fig. 2. Security window guard in use at Children's Memorial Hospital, Chicago.

the window. The windows themselves can be moved up or down, one or both sashes, without in any degree disturbing the guard.

It is made in any size, to fit the windows, shows hardly at all from the outside, and it is quite as well adapted for the windows of a sanatorium, a psychopathic or men-

tal hospital, where it is desired to control adults, or a children's institution. The illustration, Fig. 2, shows the device in use in a ward of the Children's Memorial Hospital, Chicago. The other illustration shows the guard more in detail.

One of the desirable features of this guard is that it can be adjusted to any window or moved from one window to another in a moment and without having to call an expert mechanic.

The Megan Apparatus for Disinfection and Fumigation

Authorities on disinfection are practically unanimous in their opinion that the scientifically efficient disinfectant for general use should be a gaseous one, for the reason that mechanical disinfection, such as spraying, washing, etc., cannot be reliably accomplished. For this reason health boards, hospital managers and the medical profession in general are always interested in any new device or apparatus which promises to be an improvement over the methods in use at the present time.

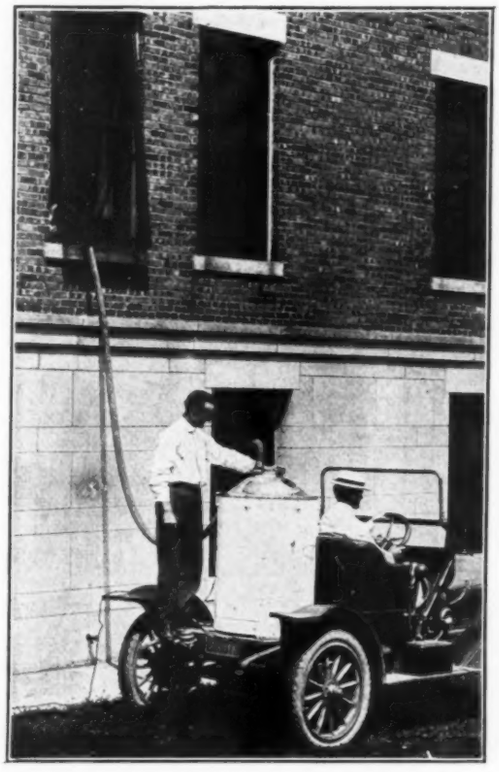


Fig. 1. The Megan disinfector and fumigator.

The American Laboratories Co., of Kansas City, has recently put on the market an equipment called the Megan apparatus, by means of which may be generated at the same time a combination of the following gases:

Hydrocyanic acid (HCN).

Formaldehyde gas (HCHO).

Sulphur gas (SO_2).

The inventors are ready to guarantee fully that the formula used in their apparatus will liberate 100 percent of formaldehyde in the form of effective gas, create a strong concentration of hydrocyanic acid and sulphur gas and so neutralize the latter that its injurious effect on linen, cotton, color, metals, etc. (such as is produced when burning), is absolutely nil.

It is generally known that such a combination of gases is destructive to all animal life, is a very effective germicide and also produces good results in destroying non-spore-bearing bacteria.

The construction of the apparatus is fully illustrated in Fig. 2. It is a self-contained, fume-tight gas generator, divided into two compartments, in the lower one of which is a specially designed motor-driven air pump. In the upper compartment is located a lead-lined aluminum receptacle for the fluid element of the formula and an aluminum charging chamber for the powder element.

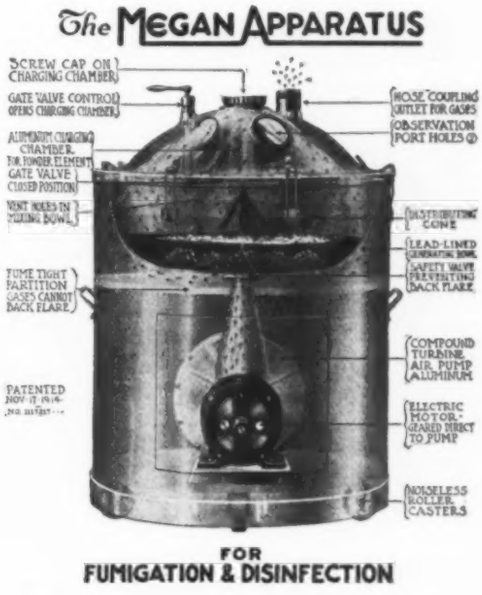

The MEGAN APPARATUS
SCREW CAP ON CHARGING CHAMBER
GATE VALVE CONTROL OPENS CHARGING CHAMBER
ALUMINUM CHARGING CHAMBER FOR POWDER ELEMENT
GATE VALVE CLOSED POSITION
VENT HOLES IN MIXING BOWL
FUME TIGHT PARTITION GASES CANNOT BACK FLARE
PATENTED
HOSE COUPLING OUTLET FOR GASES
OBSERVATION PORT HOLES
DISTRIBUTING CONE
LEAD-LINED GENERATING BOWL
SAFETY VALVE PREVENTING BACK FLARE
COMPOUND TURBINE AIR PUMP ALUMINUM
ELECTRIC MOTOR GEARED DIRECT TO PUMP
NOISELESS ROLLER CASTERS
FOR
FUMIGATION & DISINFECTION

Fig. 2. Construction of the Megan apparatus.

The combination of superheated gases is generated outside the premises and is applied under pressure through a 3-inch hose, in order to secure the maximum saturation of atmosphere, penetration, as well as sub-surface disinfection. After administration in killing doses, the gases are again exhausted, if so desired, by simply reversing the action of the pump.

From the point of view of economy the manufacturers claim that their apparatus is the cheapest means of accomplishing thorough disinfection. The chemical cost per one thousand feet with the Megan apparatus and formula is said not to exceed fifty cents, and where considerable work is done, such as in large institutions or by boards of health, the cost is considerably less.

The Gastro-Intestinal Timer

Roentgen examination is now considered a necessary part of the routine in diagnosis of gastro-intestinal conditions. Both surgeon and internist place much dependence in the x-ray laboratory findings.

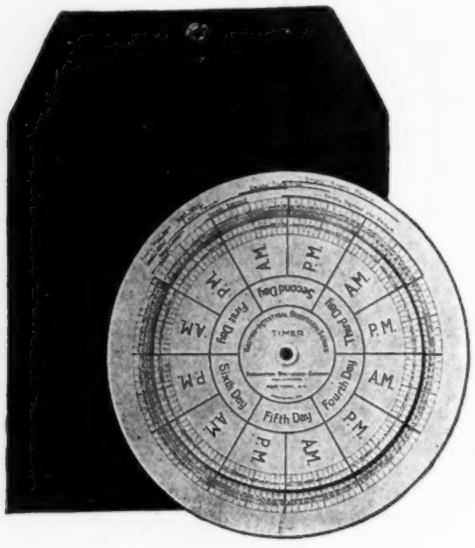
To follow the test meal given at certain points in the tract has at times been difficult, especially in large hospitals where a large number of cases are examined daily. Neither the roentgenologist nor surgeon can well be expected to know just at what time after the bismuth meal is given it may best be seen at a given point, as it works its way through the intestines.

The gastro-intestinal timer illustrated here has been devised for the purpose of giving all necessary data at a glance. It consists of heavy celluloid disks, mounted together by means of a swivel.

In determining the periods at which a series becomes

due the word "meal" is set opposite the hour (first day) of the administration of the test meal. The elapsed time in hours will then be found opposite any selected time the operator may desire; or the time on the successive days will be found opposite any series of elapsed hours the operator may select.

The average "normal motilities" will be found in the margin of the outer circle, compiled from the examination



Gastro-intestinal timer.

of several hundred cases, together with the published reports of cases by some of the principal operators.

It will readily be seen that a complete record can be quickly and accurately made for use in the x-ray laboratory when the bismuth is given, and instructions given for the return of the patient at the right hour if further examinations are required. The timer, it seems, should be of immense value to both roentgenologist and surgeon.

Self-Retaining Retractor

Designed by DR. U. C. BATES, Seattle, Wash.

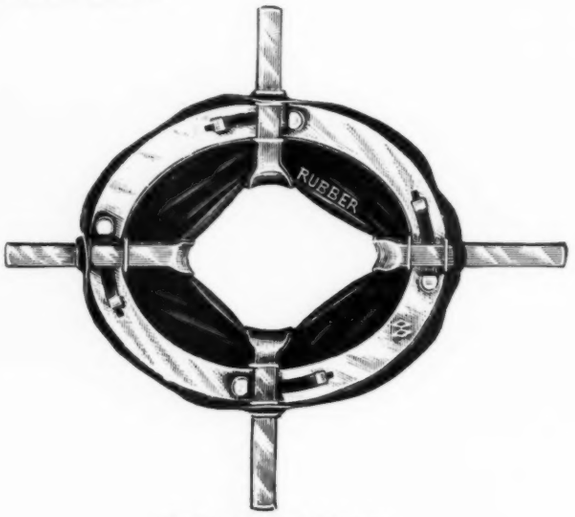
Several novel features are incorporated in this retractor, and some of these will appeal strongly to those surgeons who are doing considerable abdominal work.

The instrument consists of an oval frame about 8 inches wide and 9 inches long. Four retractor blades are fitted to this in such a way that they will slide easily through slots in the frame and be held in any degree of retraction by means of a simple ratchet device, and may be released by pressing a button on each blade. A funnel-shaped piece of rubber, especially moulded for the purpose, is slipped over the shafts of the blades on the outside. This retains itself and fully covers the portion of the blades inserted in the incision; the walls of the abdomen are fully covered by the rubber and completely protected against septic matter from within and without.

Any desired degree of retraction may be obtained, thereby exposing a large quadrant of the operative field with but a comparatively small incision.

Dr. Bates states that in doing intestinal work or gastroenterostomy clamps are not needed, as the proximal and distal portions of the gut can be packed off tightly enough to prevent the escape of contents, and the parts thus being held rigid, suturing is greatly facilitated.

As the rubber stretches from one blade to another it makes traction over the whole circumference of the wound, thus preventing traumatism by the blades and oozing from the wound surface.



Bates abdominal retractor.

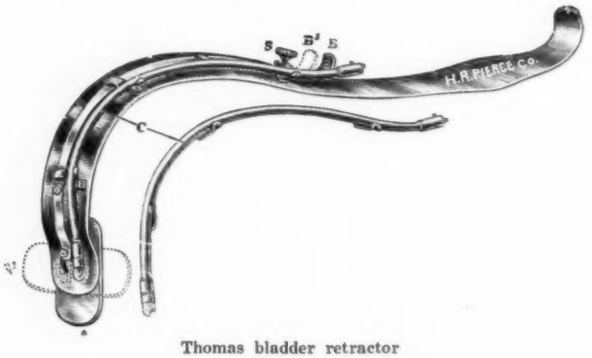
The retractor is sterilized with the rubber funnel in place, so no handling is necessary after it is taken from the sterilizer.

Bladder Retractor with Electric Light Attachment

Designed by DR. B. A. THOMAS, Philadelphia

This new retractor has several good features not found in other retractors of this type presented to the profession for use in bladder work.

The instrument may be introduced through a small incision, and when inserted the cross-blade can readily be



Thomas bladder retractor

swung in position at right angles to the main shaft of the retractor.

A powerful electric bulb is attached to a light carrier, which reaches down to the end of the retractor and illuminates the field, so the operator can inspect the base of the bladder, including the urethral orifice. The light attachment may be easily removed for the purpose of sterilization.

Four hospitals in Philadelphia are claiming a bequest of $18,000 made by the will of the late James F. Hope to any hospital in the city that would establish a ward to be known as the "Hope Memorial Ward" for the treatment of contagious diseases. Last June the Orphans' Court awarded the money to the Philadelphia Hospital for Contagious Diseases. At a rehearing claims were put in by the Episcopal Hospital, the Children's Homeopathic Hospital and St. Timothy's Hospital.

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Dr. W. L. Babcock, superintendent Grace Hospital, Detroit, Mich.
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Dr. H. F. Page, superintendent German Hospital, Philadelphia, Pa.
Dr. Wilmer Krusen, medical director Charity Hospital, Philadelphia, Pa.
Miss Marion Smith, superintendent Hospital of the University of Pennsylvania, Philadelphia, Pa.

The Louisiana State Nurses' Association has already begun to make arrangements for the entertainment of the delegates and other members of the American Nurses' Association when the latter organization holds its annual convention in New Orleans in April, 1916. It is planned to make the occasion one that will long be remembered pleasantly by the visiting nurses.

Architect Frank J. Helmle, of Brooklyn, has been engaged to draw plans for a new building for the Knickerbocker Hospital of New York City, which that institution proposes to erect on Convent avenue, between 130th and 131st streets, Manhattan. Accommodations for 150 patients are to be provided. The Knickerbocker Hospital was formerly the J. Hood Wright Hospital.

THE HOSPITAL KITCHEN

Any questions regarding equipment or other matters connected with the kitchen and dependent departments of food storage and service will be answered in this department. Address communications to The Modern Hospital, Kitchen Department, Metropolitan Building, St. Louis.

Chopping Machines

In every large sized kitchen such as in hospitals of over 100 beds there is always a large amount of chopping to be done, which should be done by a chopping machine.

The term "chopper" has been applied to what are really grinding machines, an endless screw pushing the material to be ground through knives. The result is not the same as if the material is chopped in a chopping bowl by hand, and these grinding machines are not applicable to all the chopping to be done in the kitchen.

The real chopping machine is composed of a metal bowl in which rapidly revolving knives actually chop the material without crushing it or expelling the juices.

In such a machine, which is power-driven, raw and cooked meats, vegetables, parsley, mint, onions, crackers, nuts, clams, spinach, in fact, everything which can be chopped, can be rapidly prepared. The degree of fineness is regulated by the number of minutes the machine is run, so that any degree of fineness of chopped material can be produced.

These machines are absolutely sanitary and easily cleaned. They are in general use all over the country and are considered among the greatest time-savers in use in the kitchen.

Fish Storage

Fish cannot be put in the refrigerator without its penetrating odor permeating the other articles stored therein. The odor will even stay in the icebox for days and is difficult to eliminate. Consequently, it is necessary to have some other method of caring for fish when it is necessary to keep it over a day or so. For keeping a comparatively small quantity of fish such as would be necessary in the average hospital, the best method will be found in the following plan:

Take a well-constructed wooden box lined with metal so that it will be water-tight. Before using, the box should be scalded out, to insure its absolute cleanliness. Cover the bottom with a thick layer of finely chopped ice, then pack in a layer of fish, backs down. Then pack additional layers of fish and ice, the top layer of fish being laid with backs up. Cover the top with a thick layer of crushed ice and close the lid tightly. Wrap the box up in some heavy material when full.

Fish thus packed will keep fresh for several days.

Health Commissioner Goldwater, of New York, plans to extend to barkeepers, candy dealers, delicatessen employees, and possibly to soda water dispensers, the regulation requiring food handlers in hotels and restaurants to have a certificate of freedom from communicable diseases.

BOOKS FOR THE HOSPITAL LIBRARY

Institution Libraries League Offers a List of New Publications for Profit and Entertainment

BY E. KATHLEEN JONES,

Librarian McLean Hospital, Waverley, Mass.

[The announcement in the August number of THE MODERN HOSPITAL that a league of institution libraries was to be formed brought a prompt response from all parts of the United States, and from Canada as well.

As the first demand of the league members has been for lists of desirable books of recent publication, the committee takes pleasure in calling attention to Miss Jones' selections from current literature, which will appear from time to time in THE MODERN HOSPITAL.

The committee wishes also to mention the syllabus prepared for it by Miss Jones, Librarian at McLean Hospital, Waverley, Mass., entitled "Books and Reading; Outline of a Course of Lectures to Nurses in Hospitals," which is published in the October number of the American Journal of Insanity. Reprints of this may be obtained from Miss Jones or from Miss Miriam E. Carey, State Board of Control, St. Paul, Minn.]

It has been suggested by members of the League that it might be helpful to have a list of approved new books printed from time to time in this column. Such a list would supplement (with the exception of the two years intervening) the little pamphlet entitled, *A Thousand Books for the Hospital Library*, published in 1913. In accordance with this suggestion, the following titles have been selected from the accession book of McLean Hospital in the order in which the books were purchased, with no attempt at classification. As all these books can be bought from local book shops, it has not been thought necessary to quote publisher or price. These are some of the best books published between January and June, 1915. Next month the list will be brought to date.

Julian Street's *Abroad at Home* is a delightful description of some of the principal cities of this country. Braithwaite's *Anthology of Magazine Verse of 1914*, as its name implies, is a collection of the best poems of the year. Williams's *The Yosemite and Its High Sierras*, is a charming picture book, companion to *The Mountain That Was "God"* and *Guardians of the Columbia*. Cramb's *Germany and England* needs no introduction. About *Mrs. Martin's Man* (by St. John Ervine), opinions differ; it is a strong bit of character painting of the Irish peasant, which some consider sombre, but it is not morbid. Curwood's *God's Country and the Woman* is impossible, but thrilling, and deals with the great woods. *The Lone Star Ranger*, by Zane Grey, is the story of an outlaw—a man's book. *The Turbulent Duchess*, by Percy Brebner, who wrote *The Little Gray Shoe*, is a good story of adventure and romance in the Rhine country in the 17th century.

Oppenheim's *Mr. Grex, of Monte Carlo*, needs no comment, and the account of the Kolb brothers' trip *Through the Grand Canyon* also speaks for itself. Ralph Connor has another Canadian story in *The Patrol of the Sun-Dance Trail*. Anderson's *Study of Modern Painting* is very worth while, as is also Percy Mackaye's book of poems called *The Present Hour*. Mr. Winter's *The Russian Empire* was pronounced by the late Curtis Guild to be the best book yet written on Russia. Margaret Widdemer's *The Rose-Garden Husband* is charming, and Booth Tarkington's *The Turmoil* is probably the best American novel of the year. Bindloss tells a good story of adventure in *The Secret of the Reef*, and *The Ladder*, by Philip Curtis, is above the average novel. Temple Bailey's *Contrary Mary* is charming, and Oliver Onion's *Mushroom Town* unique.

For a clear, unimpassioned account of the diplomatic relations of the different countries of Europe during the last ten years, and some of the causes leading to the present war, Herbert Adams Gibbons' *The New Map of Europe* is one of the best. Bailey's *Gentleman Adventurer* and Pocock's *The Cheerful Blackguard* are two "rattling good stories of adventure," which men like. *Pepper* is another of Holworthy Hall's Harvard stories; *Johnny Appleseed*, by Eleanor Atkinson, whose *Greyfriars Bobby* was so delightful, tells the story of the settlement of Ohio.

Enos Mills gives us another of his interesting outdoor books in *The Rocky Mountain Wonderland*. *Angela's Business* needs no comment. *Pals First*, by Frances Elliott, is a surprise from first to last, and one cannot help enjoying it, even though it does revert to melodrama. In Ada Anderson's *The Rim of the Desert* we have another good Western story, and Mrs. Willsie's *Still Jim* and Knibbs' *Sundown Slim* belong in the same class. *His Official Fiancee*, by Mrs. Oliver Onions, is thoroughly enjoyable; Frances Little's *House of the Misty Star* cannot compare with her *Lady of the Decoration*, but is worth reading for the Japanese setting. Oppenheim's *A Double Traitor* is probably well known.

The Baroness Orczy's *A Bride of the Plains*, while sad, gives a most interesting picture of life in a Hungarian village. *Diantha*, by Juliet Wilbur Tompkins, is impossible, but makes good reading, while in *The Girl at Central*, Geraldine Bonner has written a very clever detective story. Winston Churchill's *A Far Country* is a disappointment; he seems to have lost, in his last three novels, that rare sense of humor which made *Coniston* and *Mr. Crewe's Career* so delicious. *Thankful's Inheritance* is another Cape Cod story, by Joseph Lincoln, of *Mr. Pratt* fame; *The Idyl of Twin Fires*, by Walter Prichard Eaton, is a dainty and charming piece of writing, with a slender, but delicate, love-story running through it.

Mr. Locke is at his best in *Jaffery*, and Mr. Merwin's *The Honey-Bee* is above the average novel in thoughtfulness. With this latter comes M. H. Bradley's *The Splendid Chance*, the best story of the beginning of the war in France which has yet appeared; necessarily sad, but strong and restrained. In Dorothy Canfield's *Hillsboro People* we return to the Vermont hills; these are delightful short stories, typical of New England. *Grocer Greatheart* is a "cast-away-on-a-desert-island" story, with a most surprising ending; a book to chuckle over, written by an Australian named Arthur Adams. Mrs. Bacon has written an interesting though somewhat melodramatic story in *Open Market*. The men like *The Man Who Rocked the Earth*, by Arthur Train and R. W. Wood. This is the last book on the June list.

FIGHTING TYPHUS IN SERBIA

Dr. Richard P. Strong Tells an Interesting Story of the Valiant Fight of the American Red Cross

Dr. Richard P. Strong, of Harvard, who has just completed the eradication of typhus fever from Serbia, has at last found a sufficient breathing spell to enable him to tell something about the work he and his associates have been doing. In a recent interview granted to Mr. Henry Wood of the United Press, Dr. Strong tells the full story.

The interview took place in a little third-class railway car, which, fitted out with beds in one part and a shower bath in the other, and with a flat car attached behind for carrying his automobile and another car in front for the members of his immediate staff, has been practically the only home Dr. Strong has known in Serbia.

"The epidemic reached its height in the middle of April, just as the American mission arrived," said Dr. Strong. "New cases then numbered 8,500 daily, but it must be remembered that these were the figures only of the victims who came to the military hospitals. Serbia had not been able even to keep statistics of the victims among the civil population, and so the above figures give, as a matter of

fact, no accurate idea of the extent of the epidemic.

"In fact, few figures of any kind are to be had, but presumably the total deaths from the epidemic have been about 100,000 and the number of victims down with the disease at the time we took charge was very likely of equal magnitude."

Dr. Strong told an interesting story of the work of the mission in general, and of the work in the hospitals he said:

"The next most important phase of the work was our sanitary assault on the military hospitals. These, from the start, had been the most prolific centers for the spreading of the disease. They were at all times congested to the limit with wounded or sick soldiers, whose infested clothing quickly spread the disease to almost every inmate.

"In attacking the hospitals we took with us portable bathtubs and had at our disposition the Austrian prisoners to give the sick and wounded their disinfecting baths. While they were doing this we put their clothing and bedding through the steam process and then wound up by disinfecting the entire building with sulphur and often even whitewashing the walls. Of the 113 military hospitals in Serbia, fully 100 passed through this sanitary regeneration at our hands."

Not one of the mission contracted the disease. Of this Dr. Strong says:

"One of the most happy features of the whole work was the manner in which we ourselves, after the terrible experiences of the Serbian and American Red Cross units, kept free from the disease. Not one of the fifty-four men comprising our mission fell a victim. But, naturally, we had at our disposition all of the latest possible preventives. Every doctor assigned to hard work amongst the victims wore a vermin-proof suit, rubber gloves and adhesive bands above the wrists and ankles."

THE STATE, THE MOTHER, THE CHILD

Maternity and Infant Welfare Regarded by Great Medical Journal as Peculiarly Devolving Upon the Government

Students of current social movements cannot fail to observe the strength of the efforts which are now being made to extend state action in all that relates to maternity and infant welfare. To this there are many contributory causes, the most prominent perhaps being the attention which has been evoked by the operation of national insurance to the disabilities entailed on working women by pregnancy. Simultaneously, as a result of the work of public health authorities in connection with notification of births, it has become realized that excessive infant mortality to a very large extent occurs during the first few weeks of life, in circumstances often to be attributed to malnutrition or definite illness of the mother, to inefficient midwifery, or to other remediable conditions. Then, again, education authorities, which now undertake systematic medical examination and treatment of children who have reached school age, have found that the ailments or defects of the children should in many cases have been detected and dealt with before the age of compulsory school attendance was reached, or might have been prevented altogether by suitable advice to the mother or hygienic management of the child at an earlier stage. An extreme instance, for example, is the child coming to school showing the results of congenital syphilis, which need not have developed if syphilis of the mother had been detected in the ante-natal period. Towards meeting the demand thus arising, much is already attempted or done by various official bodies, so far as their functions permit, and as much, or perhaps more, by the large number of semi-official and voluntary associations which in one form or another undertake what is termed "infant-welfare" work, and by charitable institutions and maternity hospitals. But the multiplicity of uncoordinated work by existing authorities and organizations in advising, visiting, inspecting, and treating mothers and infants causes much inconvenience and waste of effort, besides being incomplete in many essential respects.

A movement to obtain a new and better order of things, lately organized by the Women's Cooperative Guild, deserves special attention, as it is typical of much which is being proposed in other quarters. Briefly, it is a proposal for local municipal action, largely at the cost of national funds, to establish maternity centers to supply medical and nursing supervision for pregnant women of the working class, to provide and pay municipal midwives, to support maternity hospitals, and to supervise the health of the child until school attendance begins by a large extension of home visiting, infant consultations, and clinics. It is suggested that as an "endowment of motherhood" the sum of £7 10s. (absorbing the present maternity benefit) should be granted by the state for every child born, the major part of which would be given to the mother in connection with the municipal supervisory system. Social reformers who are individualists, if any such remain, may question the expediency of state action in such directions as these, on the ground that parental responsibility will be further weakened, and may object to opening the door widely to further innovations, such as the municipal nursery and crêche, which would probably follow on a considerable scale. The eugenist also may ask, without much expectation of being satisfied, what steps the state proposes to take to see that the children thus encouraged and adopted are the right material for the next generation, arguing that the more desirable class will be less disposed to supply children for municipal officers to bring up, so that the stock will be recruited from the less efficient. Such arguments, however, usually appear to be pleas for inaction, while the supporters of the movement to which we refer have behind them substantial and practical reasons for requiring something to be done, in which they are unquestionably in accord with the general spirit of the time. In its medical aspects there need be no hesitation in supporting the contention that if national money and organization are made available much invalidism of mothers, and death and disabilities of children can be prevented. The recent trend of medical work, including developments in the education of medical students as to the care and hygiene of infancy tends to increase the efficiency of the service which medical science is already able to render in this direction.—*The Lancet* (*London*).

A GOOD "NARCOTIC DRUGS" FORM

St. Vincent Charity Hospital, Cleveland, Presents a Method Popular With the Ohio Hospitals

At a recent organization meeting of the Ohio Hospital Association, at Cedar Point, one of the topics that proved of great interest to those in attendance was the technical administration of the new "Narcotic Drugs" law. A number of those present told of their own methods in carrying out the provision of the law.

One of the methods that made a special appeal to the audience was that in vogue in St. Vincent's Charity Hospital, Cleveland, as outlined by Sister M. Marcelline, superintendent of nurses of St. Vincent's.

In order that "Charity's" system may be known to a wider circle of hospitals, the editor of THE MODERN HOS-

ST. VINCENT'S CHARITY HOSPITAL, CLEVELAND, OHIO

Date	Ward	Drug	Amount	Suppos.	Hypo. Tablets, gr.					Am't Credited	Date
					½	¼	⅙	⅛			
May, 1915 ...	A	Morphine...	gr. 38	.....	.....	100	30	40	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Fig. 1. This is a sample copy of Narcotic drug book kept by the pharmacist. She enters amount and strength, etc., each department on a separate page, i. e., Ward A on one page, Ward B on another, Operating Room, Casualty Room, etc. All prescriptions for liquid medicines containing narcotics—the physician writes the prescription on blanks provided for the purpose in the pharmacy, signs name and register number. These prescriptions are kept on file, and at the close of the week are pasted in a scrapbook.

ST. VINCENT'S CHARITY HOSPITAL, CLEVELAND, OHIO

Habit-Forming Drug Sheet

Note.—For every dose of opium or coca leaves in any form, opium, morphine, laudanum, heroin, cocaine, etc.—a full line of this sheet must be filled out. Failure to do so is punishable under the law by fine or imprisonment, or both.

Date	Hour	Name	Ward	Doctor	Drug	Amount	Administered by Doctor or Nurse
9-16	12:00	M. Greene	O. R.	Reg. 1494 Jackson.....	Novocaine, ¼%	dr. I	Dr. Robinson.
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....

Fig. 2. These drug sheets are kept in every department. The order for a dose has to be filled in by the visiting physician or intern. He signs both his name and register number. When the nurse administers the dose she fills in the hour and her name, then makes a note of same on the Bedside Record, so that the visiting physician can see at a glance what his patient has received. We take no standing orders, no p. r. n. orders; each and every order is signed by the visiting physician or intern. When the head nurse needs to renew her supplies of narcotics, she takes her drug sheets to the pharmacist to account for amount used. The pharmacist sees that the amount on the drug sheet totals with the amount in her "Narcotic Book," given on such a date.

PITAL asked Sister Marcelline to prepare a short statement for publication; and this she has done in the above sheet forms, with the notations beneath.

WEST VIRGINIA ORGANIZES HOSPITAL ASSOCIATION

Following the Lead of Ohio, the New Organization Will Deal with Problems of the Hospitals of the State

There came at the invitation of Doctor G. C. Schoolfield, of Charleston General Hospital, Charleston, W. Va., about twenty men, owners or executors of hospitals scattered over the state of West Virginia, who, in a meeting held at Hotel Kanawah at Charleston, with two sessions, a morning and an afternoon, on September 21, 1915, perfected the organization and elected officers of a state hospital association, the primary purpose of which is to carry the efficiency and principles of the American Hospital Association to a larger number of superintendents than are at present interested in that work; and, second, discussed the possible solution of strictly West Virginia problems.

In order to make the organization an auxiliary of the national organization, the example of the Ohio State Association, in very closely following the constitution of the American Hospital Association, was adopted with a combination of some of the offices and a simplification of some of the committee work.

The following officers were elected.

President—Dr. G. C. Schoolfield, trustee Charleston General Hospital, Charleston, W. Va.

Secretary-Treasurer—Dr. W. H. St. Clair, superintendent Bluefield Sanitarium, Bluefield, W. Va.

First Vice-President—Dr. B. B. Wheeler, superintendent McKendree Hospital, McKendree, W. Va,

Second Vice-President—Dr. A. K. Kessler, proprietor Kessler Hospital, Huntington, W. Va.

Third Vice-President—Dr. R. E. Vickers, proprietor Mount Hope Hospital, Huntington, W. Va.

Executive Committee—Dr. O. O. Cooper, chairman, superintendent of the Hinton Hospital, Hinton, W. Va.; Dr. G. C. Rogers, superintendent Elkins City Hospital, Elkins, W. Va.; Dr. W. A. McMillan, superintendent McMillan Hospital, Charleston, W. Va.

Committee on Legislation, School for Nurses, Constitution, By-Laws and Rules—Mr. Pliny O. Clark, chairman, superintendent of the Ohio Valley General Hospital, Wheeling, W. Va.; Dr. A. K. Kessler, proprietor Kessler Hospital, Charleston, W. Va.; Dr. E. H. Thompson, superintendent St. Luke's Hospital, Bluefield, W. Va.; Dr. J. E. Coleman, superintendent Beckly Hospital, Beckly, W. Va.; G. A. MacQueen, proprietor Kanawah Valley Hospital, Charleston, W. Va.

The next meeting of the association will be held the day prior to the meeting of the State Medical Association in Wheeling, the second week of May, 1916.

The meeting was a very enthusiastic one, with snappy discussions of several questions of vital interest to the hospitals of the state, and it is hoped that the organization will be able to accomplish a great deal in the efficiency and economy of management of the hospitals of the state.

Parties whose names have not been officially announced have recently purchased three adjoining buildings at 205-7-9 West 70th street, New York City, for the establishment of a radium institute to be conducted along philanthropic lines, after the plan of the London Radium Institute. A number of prominent physicians and wealthy business men are understood to be behind the project. The 70th street buildings will be remodeled to meet the needs of the near future, but the plan contemplates a new hospital later on. It is said that the ultimate plant and equipment will represent an expenditure of $1,000,000. A contract for radium to the value of $120,000 has already been awarded. This, it is believed, will give the institution the largest supply of radium devoted to medical purposes in this country.

HINTS FOR HOSPITAL SUPERINTENDENTS.

There is no excuse for a hospital—no matter how small, and no matter what its financial limitations are—not to carry out the orders of its doctors. Doctors may be poor business men, and usually are, but also they are usually reasonable and reasoning human beings. The hospital superintendent or head nurse who is content to answer, "We can't do it," or, "We can't get it," to a doctor's order, and let it go at that, will not succeed in pleasing the staff, or giving the best possible service to patients. Generally a doctor will be glad to "make something else do," if he possibly can, and generally also he will have a good suggestion to make as to what that "something else" shall be; but he would like to be consulted about any proposed substitution, and if he can't consent to it, he will usually help find a way to carry out the order as he originally gave it.

Did one ever know a hospital superintendent who was not being worked to death? The trouble is that many superintendents do not know how to get work out of others; they will stop to pick out letters on the typewriter that could be far better done by a ten-dollar-a-week girl. A hospital administrator has no right to waste time that he or she is being paid for as an executive head, in the performance of duties that can be as well or better done by some one drawing a floorman's wages. Learn to delegate work to your heads of departments—and by all means refrain from doing any piece of work that is likely to lower your dignity or make you ridiculous. How would you like, some day, to have your board drop in and find you shelling peas for dinner? And yet, you had better ask yourself whether some of the duties you are performing are not quite as silly.

Before you start to build, plan very carefully to be quite sure you are not straining the conditions under which your new institution is to be operated. Remember it is far easier to get money for the construction of a new hospital than it is to obtain enough to make up deficits year after year. If you build a 200-bed hospital when there are not to be more than 100 patients, your per capita cost must run very high, because the whole building will have to be heated, lighted, cleaned and kept in good repair. It costs about as much to run a 2,000-passenger ship with only 100 passengers aboard as it would if every berth was taken. The overhead expense is there. Better build in sections, a wing or two at a time, and let overcrowding force you to add new wings. But plan for the eventual complete building, so that in making additions no tearing down will have to be done.

Are your surgeons being compelled to use home-sterilized catgut? If they are, you are not giving them a fair chance to do their best work. Home-sterilized catgut is never reliable. The processes of sterilization are not reliable, and even if they were reliable under exacting conditions, these conditions never can be maintained day after day throughout the year, where the work is in the hands of pupil nurses who are constantly rotating. You had better buy your catgut from people who make a life's work of preparing it specially for hospital use. Reliability in sterilization is the chief asset, and the stock in trade that these concerns do business with, and they are not likely to jeopardize their own business by carelessness in the preparation of their product. To buy sterile catgut ready for use will cost more, but it will be cheaper in the end, and it will be protection for your patients, for your doctors and for your hospital.

No matter that the hospital is so small that it has no intern or resident medical officer, and that the technic of admitting patients must be carried out by the superintendent, who is at the same time the burden bearer of the whole establishment, there should be some definite rules by which patients are distributed upstairs.

You can see at least that an acute surgical case or a woman in labor is not placed in a room or ward occupied by a puerperal infection; and you can see that a tuberculosis or typhoid is not placed near a patient whose resistance is so lowered that he will not be able to resist the slightest contact with a communicable infection.

It is very much more important that a patient should not be subject to the risk of infection than it is that a patient who can pay $15.00 a week should not be put with a patient who can pay only $10.00. The latter is an inconvenience, but the former is a crime.

In some highly organized business plants the managers have adopted schemes to secure and hold the interest of employees by installing "suggestion boxes" located at some central point, into which employees may drop a suggestion touching not only on the work in their own particular departments, but concerning anything calculated to better the business in any way. In one such plant there is a "Suggestion Committee," made up of members of the board of directors; at intervals this committee goes through the box, and gives a prize, generally money, for a suggestion of value.

How would it do to instal such a system in the hospital? Instead of money prizes there might be a medal, which the winner would be entitled to wear until a later or better "suggestion" took it away from him. Such a contest should be open to all, from the superintendent to the office boy, and include visiting medical men, interns, nurses, orderlies, janitors, maids and the office and mechanical forces.

Other medals might be offered, for instance, one for efficiency, loyalty and energy, to be awarded at the end of each year, and held during the next year; a good deal of friendly rivalry could be stirred up. Such a prize as this latter should be awarded by a committee made up of heads of departments and the superintendent.

It is as hard to fit coal into a furnace as it is to fit shoes on feet full of corns and bunions. There are so many things to be considered in selecting coal for the hospital firebox; open or closed hearth; much or little draft; long or short stack; tubular or tank boiler; hard water, full of scale possibilities, or a soft pure water; all these have a bearing on the selection of coal. It isn't the coal that contains the greatest number of British Thermal Units that will do the most for your boilers, nor is it the coal that has the highest chemical analysis for energy; it is the coal out of which your particular boilers will get the most heat, as shown by carefully made evaporation tests. Even an evaporation test run of 8 or 24 hours tells only part of the story. The best way to test coal, pending the year's contract, is to burn each sample for two or three days at a time, weighing carefully every pound used, keeping careful account of your steam pressure all the while, and weighing your cinders as they are withdrawn. Given about the same outdoor temperature, while all the samples are being run, and knowing the bottom price per ton of each coal, you will be able to figure pretty accurately what is best for you to buy. Then if you are assured that your contractor can control his supply all the year you have all the evidence at hand upon which to make your contract.

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—Powder
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Pituitary Liquid
—(Physiologically Standardized)
1-c. c. ampoules

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—Powder
Capsules—5 gr.
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RECOMMENDED in the treatment of intestinal disorders, especially those due to excessive proteid diet and malassimilation of proteins, on the theory that the hormones, prosecretin and enterokinase stimulate the glands of digestion and activate their secretions.

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NEWS OF THE HOSPITALS AND SANATORIUMS

A county hospital is being established at Gainesville, Tex.

Dr. M. M. Norton is building a 30-bed sanitarium at Lake Village, Ark.

Thirty-six thousand dollars has been subscribed for a hospital at Cherokee, Iowa.

Miss Julia A. Rowley, of Reno, Nev., is establishing a private hospital at Clovis, Cal.

Dr. R. L. Starkweather will open a sanitarium at Goshen, Ind., in the near future.

Dr. H. M. Erenfeld has sold his hospital at Anamoose, N. D., to Dr. H. M. Presler, of Cullom, Ill.

Efforts are being made at Randolph, Neb., to raise money for the erection of a community hospital.

The second wing of the new $300,000 Mountainside Hospital at Montclair, N. J., has recently been opened.

A home for crippled children, founded by the Scottish Rite Masons, has recently been opened at Atlanta, Ga.

The tenth anniversary of the State Orthopedic Hospital at Lincoln, Neb., was celebrated October 1.

The Casper Private Hospital, operated by Dr. H. R. Lathrop at Casper, Wyo., is being remodeled and enlarged.

A school for nurses, offering a three-year course, has been established this fall at the Minneapolis City Hospital.

At a recent election in Jasper county, Mo., bonds in the sum of $100,000 were voted for a county tuberculosis sanatorium.

The new Citizens Hospital, a fifty-bed institution, erected at a cost of $60,000, has been opened at Barberton, Ohio.

Shoshone, Idaho, is to have a hospital operated by the Sisters of Mercy if local people show sufficient interest in the project.

The Greensboro (N. C.) Medical Society has inaugurated a movement for the erection of a $50,000 hospital in Greensboro.

A group of associated physicians in Portland, Ore., are having plans drawn by Architect J. D. Dautoff for a hospital to cost $10,000.

Plans for a new 50-bed wing, a new operating room and a new nurses' home for St. Joseph's Hospital, St. Joseph, Mo., are being considered.

The Zion Hospital, a new Jewish institution, is in operation at 1550 Fifty-second street, Brooklyn, N. Y., with Dr. Henry Lakowitz in charge.

A county hospital with accommodations for 200 patients has recently been completed at Raleigh, N. C. It will replace the present county home.

The Park Hospital is the name of a new corporation at Wabash, Ind. Drs. Gilbert M. La Selle, James Wilson and Edwin D. Pearson are directors.

Miss Alma Ridste, formerly of the Sunnyside Hospital, New London, Minn., is studying at the Illinois Post-graduate School for Nurses, Chicago.

Schenectady, N. Y., is trying a new plan this fall in looking after the health of the children in its public schools. Instead of six school physicians, who have devoted an hour a day each to the work, a New York physi-

Mercurialized Serum

An Important Advance in the Administration of Mercury for the Treatment of Cerebral and Systemic Syphilis

In cerebral syphilis the spirochetes are located in the cerebrospinal system and are unaffected by the intravenous or other use of the usual antisyphilitics. Dr. C. M. Byrnes, of Johns Hopkins University, has discovered that bichloride of mercury loses its corrosive properties and may be administered intraspinally if dissolved in the proper amount of Normal Serum. Dr. Loyd Thompson has used the same preparation by the intravenous route for the treatment of systemic syphilis.*

Mercurialized Serum Mulford is furnished:

FOR INTRASPINAL USE

No. 1.—In 30 c.c. ampuls containing 1.3 mg. (1-50 gr.) Mercuric Chloride in normal serum and physiologic salt solution, with special sterilized rubber tubing and sterilized intraspinal needle.

No. 2.—In 30 c.c. ampuls containing 2.6 mg. (1-25 gr.) Mercuric Chloride in normal serum and physiologic salt solution, with special sterilized rubber tubing and sterilized intraspinal needle.

No. 3.—Hospital Size Packages, contain ten 30 c.c. ampuls, each containing 1.3 mg. (1-50 gr.) Mercuric Chloride in normal serum and physiologic salt solution.

No. 4.—Hospital Size Packages, contain ten 30 c.c. ampuls, each containing 2.6 mg. (1-25 gr.) Mercuric Chloride in normal serum and physiologic salt solution.

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No. 5.—In sterile glass syringe, graduated in fourths, with sterile needle, containing 22 mg. (1-3 gr.) Mercuric Chloride in 8 c.c. normal serum. Each one-fourth graduation of the syringe contains 5.5 mg. (1-12 gr.) Mercuric Chloride and represents the usual dose.

No. 6.—Hospital Size Packages, contain ten graduated sterile glass syringes with sterile needles, each containing 22 mg. (1-3 gr.) Mercuric Chloride in normal serum.

*For further information regarding Mercurialized Serum in the treatment of cerebral and systemic syphilis, see the Journal of the American Medical Association, December 19, 1914, p. 2182, and May 1, 1915, p. 1471; also *The Mulford Digest*, May, 1915.

The Luetin Intradermic Test

In the Mulford Special Intradermic Test Syringe

A Simple and Accurate Method of Diagnosing Tertiary and Latent Syphilis

Luetin is an extract of killed cultures of a number of strains of the Treponema pallidum (Spirocheta pallida) carefully sterilized and placed in sterile glass ampuls or intradermic syringes.

A positive reaction manifests itself in the form of a pustule, papule, or other inflammation at the site of injection.

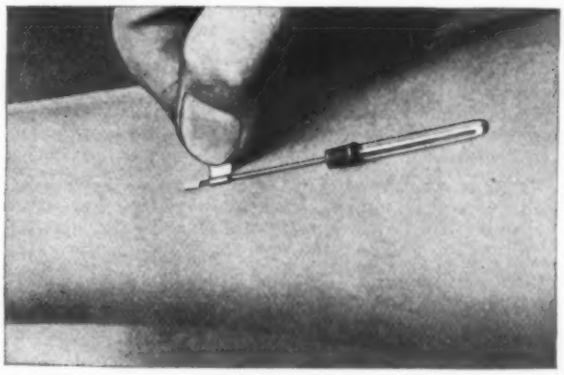
The value of the Luetin test may be summarized as follows:

The Luetin reaction is specific for syphilis.

It occurs most constantly and intensely during the tertiary and latent stages.

It is usually absent, or very mild, in the primary or secondary stages, although in these stages it may become positive after energetic treatment.

In infants it is less marked than in adults with congenital syphilis.



Showing the Mulford Intradermic Syringe and Method of Making Test. The skin is sterilized; holding the needle by the finger rest it is carefully inserted between the layers of the skin. As the intradermic needle is pushed up into the barrel the proper amount of luetin is injected intradermically.

The Luetin Test is furnished:

In packages containing single tests in intradermic syringes.

In packages containing five tests in intradermic syringes.

In ampuls containing sufficient for 50 tests (without syringes) for hospital use.

Working Bulletin on Mercurialized Serum and Luetin Mailed Upon Request

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cian, who has had three years' experience in children's hospitals and has made a study of mental defectiveness among children, has been engaged to take charge of the Schenectady school work. He has one assistant.

A new operating suite, said to be one of the finest and best in the country, was opened at the McKeesport Hospital, McKeesport, Pa., last month.

The hospital in course of construction at Mason City, Iowa, for the Sisters of Mercy, is nearing completion. It will be known as the Mercy Hospital.

William Rogoski, of Albany, N. Y., has applied for a certificate of incorporation for a memorial hospital which he proposes to erect at Chatham, N. Y.

A refrigeration plant with a manufacturing capacity of two tons of ice daily and a refrigeration of forty tons will soon be built for the Minneapolis City Hospital.

The old County Hospital at San Bernardino, Cal., was burned the latter part of September. Plans for a new $150,000 fireproof building were already under way.

The cornerstone of the Masonic hospital in course of construction at Elizabethtown, Pa., was laid with ceremonies September 29. The building will cost $50,000.

Dr. John Shaw, assistant superintendent of the Maine State Sanatorium at Hebron, has been elected superintendent of the Central Maine Sanatorium at Fairfield.

Under the provisions of a new housing and sanitation law every hospital and every nurses' home in Philadelphia will be compelled to take out licenses as rooming houses.

At a mass meeting of citizens, recently held at Lyons, Kas., a committee was appointed to ascertain the cost of erecting and equipping a suitable building for a hospital.

The Stockton State Hospital, Stockton, Cal., occasionally holds an "official" rubbish fire, when all of the rubbish about the grounds of the institution is piled up and burned.

The Rockhill Sanatorium Company, of Dover, Del., has been incorporated with a capital stock of $200,000 for the purpose of establishing and operating sanatoriums and hospitals.

The King's Daughters' Hospital at Ashland, Ky., is to have a new $25,000 building. It will be four stories high, of stone and steel construction, and will have a capacity of 45 beds.

Miss N. B. Rippin, until recently in charge of the isolation department of the Vancouver (B. C.) General Hospital, has taken a position with St. Luke's Hospital, Jacksonville, Fla.

The German Hospital, New York City, will receive more than $100,000 from the estate of the late Karl Hutter, millionaire inventor of the porcelain bottle stopper, who died two years ago.

Miss Alice Lake has resigned her position as assistant superintendent of the Harper Hospital training school for nurses, to accept the superintendency of a newly-erected hospital at Nashua, N. H.

The Volunteer Hospital, Beekman and Water streets, New York City, which opened a new three-story building in the summer, contemplates extending the structure to seven stories in the near future.

A four-unit hospital, consisting of an administration building and a ward each for white, Indian and negro patients, will be erected at Sand Springs, Okla., by Drs. Daniel W. and Peter Cope White.

A new $100,000 home for the Methodist Hospital at Los Angeles, Cal., was opened October 1. This is the central building of a hospital designed eventually to cost $250,000 and to accommodate 250 patients.

The Western Hospital for the Insane, Bolivar, Tenn., is making arrangements to rebuild its laundry, engine house, electric light plant, ice plant and storehouse, which were damaged by fire several weeks ago.

The Union Benevolent Association Hospital, Grand Rapids, Mich., has enrolled this fall the largest class of student nurses in its history, including young women whose homes range all the way from Saskatchewan to Texas.

RELIABLE
Vacuum Heating Equipment

¶ Did you hear or read D. D. Kimball's address on "The Mechanical Equipment of Hospitals," before the Seventeenth Annual Conference at San Francisco in June last? It was published in The Modern Hospital for October.

Mr. Kimball, President of the American Society of Heating and Ventilating Engineers, and member of the New York State Commission on Ventilation, is an engineer of twenty years' experience and an eminent authority on the design and installation of hospital equipment. The following are excerpts from Mr. Kimball's address:

"The most important element of the hospital building is the heating and ventilating plant. * * *

"Few, if indeed any, engineers of experience and free of manufacturing or contracting interests will assert that a hot water system, gravity or forced circulation, is the equal in low cost of installation, economy and convenience of operation, or otherwise with the modern vacuum steam heating system with its graduated control of steam to the radiators. * * *

"It is a misfortune that advantage has been taken of the success and popularity of the vacuum and graduating heating systems by some manufacturers who have foisted upon the public many inefficient and cheap graduating float and thermostatic valves which have, in many cases, brought discredit upon the vacuum heating system."

Please be sure to note carefully the last paragraph. Mr. Kimball is right—many companies have taken advantage of the success of vacuum heating by placing on the market inefficient equipment. That is all the more reason why, in addition to selecting vacuum heating equipment for most efficient hospital heating, it is of equal importance to install equipment manufactured by a long established company, who has passed the experimental stage in the manufacture of vacuum and vapor heating equipment.

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Though made in this thoroughly modern way, Lippincott Apple Butter has that utter deliciousness our memories attach to the old home apple butter of our boyhood days. It will offer a most welcome change on the daily hospital menu. In addition, its tempting appeal to the palate will do much to stimulate the sluggish appetite of the convalescent.

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You will appreciate that we can afford to send this 8-lb. can only to those genuinely interested. On receipt of the coupon below, properly and satisfactorily filled in, we will send you a can, express prepaid. Fill it in and mail it ***now***.

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(City) (State)

The hospital was established in 1847. It is in charge of Miss Ida Barrett, a graduate of the institution, who assumed the superintendency in 1893, a year after her graduation. Miss Barrett was one of the vice-presidents of the American Hospital Association for 1914-1915.

Miss F. O'Neill, of Fort Collins, Colo., has assumed the superintendency of the Windsor (Colo.) Hospital, succeeding Miss Blenda Erickson, who resigned to take a position in a hospital in the western part of the state.

Miss Mary Dunlap, a graduate of St. Vincent's Hospital, Indianapolis, and who has recently been connected with the Robert W. Long Hospital in that city, has taken charge of the Plymouth Hospital at Plymouth, Ind.

Dr. C. E. Cook and Dr. Boggs will shortly begin the erection at New London, Iowa, of a hospital to contain accommodations for ten to fifteen patients. Dr. Cook has operated a small hospital at New London for some time.

The Tranquil Park Company, Dr. John Q. Myers, president, proposes to erect at Charlotte, N. C., a sanitarium consisting of an administration building and three cottages. Thirty-five thousand dollars is the estimated cost.

One of the features of a home hotel for young men, being erected in Detroit, will be a completely equipped hospital, with a nurse in charge at all times. The building is to be twelve stories high and will contain 410 guest rooms.

Dr. F. H. McLeod, Florence, S. C., has had plans prepared for rebuilding the Florence Infirmary, which was burned in the summer. A three-story brick structure, 76x90 feet, will be erected. The cost is estimated at $35,000.

Miss Elizabeth Westmacott, a graduate of St. Luke's Hospital, New York City, and formerly a resident of Hutchinson, Kas., has been appointed superintendent of the Halstead Hospital, Halstead, Kas., succeeding Dr. A. E. Hertzler.

The Sisters of St. Francis, conducting the St. Francis Hospital at Charleston, contemplate a $40,000.00 addition. They have beautiful grounds for a small hospital, have had it open about one year and have a waiting list of patients at all times.

The Burnett Sanitarium, Fresno, Cal., is formulating plans for a new building to cost $65,000 to $80,000. The structure is to be of concrete and will accommodate forty patients. It is also proposed to convert the present sanitarium into a general hospital for the city.

The will of George F. Johnson, of New York, formerly a resident of Logansport, Ind., leaving $25,000 to the city of Logansport for the erection of a hospital, has been upheld in a recent court decision. The mayor of Logansport is named as one of the trustees of the fund.

Dr. J. A. Salabia will open a private sanatorium in Athens, Tenn., about December 1. The institution will be devoted largely to the treatment and care of patients suffering from diseases of the eye, nose and throat. Dr. Salabia has practiced at Athens for eight years.

Preliminary drawings for the hospital to be erected at Carrington, N. D., by the Carrington Hospital Association, provide for a two-story structure with accommodations for fourteen patients. The cost of the building, exclusive of heating and plumbing, is estimated at $10,000.

Miss Sarah L. Kinsey, teacher of science and dietetics in the school of nursing of the Cincinnati General Hospital, has tendered her resignation to the Civil Service Commission to take up university extension work in West Tennessee under the United States Department of Agriculture.

An endowment expected to amount to $50,000 is left to the Jane Chinn Hospital, Webb City, Mo., by the will of the late Charles R. Chinn, Sr., of that city. The hospital was built and given to the city by Jane Chinn, wife of Charles R. Chinn, Sr., whose death preceded that of her husband.

It is expected that the board of trustees of the Ann May Memorial Hospital, Spring Lake, N. J., will soon announce plans for a new building to replace the structure now in use by this institution. The Ann May Hospital

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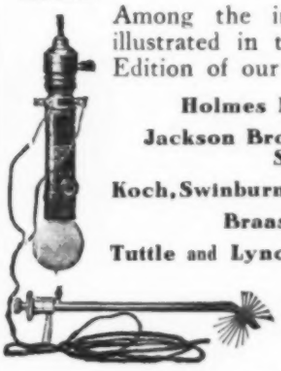

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was established twelve years ago as a memorial to Ann May Whartinby, daughter of Mrs. A. Whartinby. It was intended as a summer home for convalescents, but it has been used as a general hospital and kept open all the year.

St. John's Episcopal Church at Ensley, Ala., is being remodeled to serve as a home for a public hospital being established in that city. Drs. Nat G. Clark, S. H. Mann and M. D. Clements constitute the committee appointed to make arrangements for housing and equipping the institution.

Dr. John Merrick Bemis, proprietor of Herbert Hall Sanatorium, Worcester, Mass., a private institution devoted to the care of the insane, died September 22. Dr. Bemis was the son of [illegible] Merrick Bemis, who was at one time superintendent of the Worcester State Asylum, and who founded Herbert Hall in 1872.

Plans drawn by Architects Robinson & Campau, of Grand Rapids, Mich., for the hospital to be erected by the Woman's Home and Hospital Association of that city call for a two-story and basement fireproof structure, 80x90 feet. The rooms for patients will be arranged in pairs, each pair to have a bath between the rooms.

St. Vincent's German Orphan Society, of St. Louis, has accepted plans for a new orphans' home to cost $200,000. The society was organized sixty-five years ago, and at present maintains a home at 1421 Hogan street, accommodating over 200 children. The new home will be located on the Florissant road, northwest of the city.

The View Point Tuberculosis Sanitarium, Wheeling, W. Va., which has been conducted by a local organization, will close its doors October 1 because of a lack of support on the part of the physicians of this section and also because of lack of funds. The patients ordinarily cared for will hereafter be sent to the State Sanitarium at Terra Alta.

The recently completed Tourtellotte Memorial Deaconess' Home at Tenth avenue, South, and Fourteenth street, Minneapolis, was dedicated October 4. The home was erected by Mrs. J. Frances Tourtellotte at a cost of $25,000 in honor of her husband, the late Dr. Tourtellotte, and will serve as a nurses' home for the Asbury Methodist Deaconess Hospital.

The cornerstone of a children's building for the Tuberculosis League Hospital, Bedford avenue and Windless street, Pittsburgh, Pa., was laid October 26. The building will be of brick and stone fireproof construction, four stories high, with sun porches on each floor. On the first floor will be the machinery and service rooms. An open air school will be fitted up on the second floor. The third floor will have a ward for boys and an open air dining room; the fourth floor, a girls' ward and operating rooms. In the main floor corridor will be erected a bronze tablet bearing the inscription, "From the Well Children to the Sick," as a tribute to the boys and girls of Pittsburgh, whose penny savings form a large part of the building fund. There is said to be at present no institution in Pittsburgh which receives children suffering from tuberculosis.

A new modern home for the Good Samaritan Hospital at Cincinnati was dedicated October 2. The building contains five operating rooms, four seventeen-bed wards and sixty-two private rooms. The plans for the structure were drawn by Architect G. W. Drach, of Cincinnati. The Sisters of Charity of St. Joseph, who conduct the hospital, came to Cincinnati 80 years ago, opening an orphanage, parochial school and academy. It was not until 1852, however, that they became identified with the medical activities of the city. In that year they established the "Hotel for Invalids" at the southwest corner of Broadway and Franklin street, in the same house where, for ten years before, Dr. Talliaferro and others had conducted a private hospital. The Good Samaritan Hospital was an outgrowth of this institution. In 1866 Joseph C. Butler and Lewis Worthington, both Protestants, became interested in the work being done by the sisters, and learning their need of larger quarters, purchased for them the Government marine hospital at a cost of $70,000. The conditions of the deed of gift were that it should be held in perpetuity as a hospital under the name of the Hospital of the Good Samaritan, and that no applicant for admission should be preferred or excluded on account of his or her religion or nationality. Fifty thousand persons are

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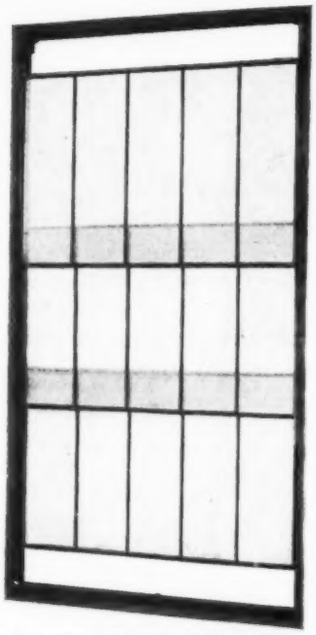

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said to have been cared for by the institution. Sister Anthony, who took charge of the hospital at the close of the Civil War, had served as a nurse on the battle fields and was known and revered by the soldiers of both the North and the South as the "Angel of Shiloh." Sister Victoria, the present superior, spent her early life among hospitals and asylums of her order in the West.

The old card system used in admitting friends and families of patients to the Charity Hospital, New Orleans, has been abolished, and hereafter no attempt will be made to restrict the number of visitors to a single patient. All persons wishing to visit patients will be admitted each afternoon between the hours of three and four, and on Tuesday and Friday evenings between 6:30 and 7 o'clock. The Charity Hospital maintains a thousand beds.

O. T. Johnson, multi-millionaire philanthropist of Los Angeles, who built the Florence Crittenton Home in that city, has recently presented to the city a modern steel and concrete building, erected at a cost of $150,000, to serve as a home for widows or deserted mothers having small children to support. The structure contains fifty-two apartments, some having as many as four rooms. Each apartment has a yard in which the children may play. There is also a nursery for the children whose mothers must leave home to work. The apartments will be rented at $5.00 a month, and in the event that any surplus accumulates over the actual cost of keeping up the home it may be used to meet the rent of any member who loses her position and is unable to pay. To be eligible to admittance a mother must be of American birth and of the Caucasian race, and must have more than one child dependent upon her.

Red Cross Will Distribute 200,000,000 Christmas Seals

Two hundred million Red Cross Christmas Seals are now being printed and distributed by the American Red Cross and The National Association for the Study and Prevention of Tuberculosis, according to a recent statement of the latter organization. The proceeds will go for the fight against tuberculosis in the various communities.

The Organization of the Red Cross Seal sale this year

This cartoon, by Miss E. A. Champlin, illustrates a Red Cross Seal story, to be used again in 1915 publicity.

will take in every state and territory of the United States, including Hawaii, Porto Rico, and the Canal Zone. By December 1 over 500,000 workers will be in the campaign.

The sale in 1914 broke all previous records, totaling

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over 55,000,000 seals, an increase of 22 percent over 1913. After deducting all expenses, this left nearly $500,000 for tuberculosis work in this country. The money has been and is being expended by over 2,000 different agencies who benefited from the sale in amounts ranging from $100 or less to over $25,000. The American Red Cross will continue its policy of charging only 10 percent of the gross proceeds to state anti-tuberculosis associations.

ONE WAY TO REACH THEM

Patent Medicine Makers Must File Their Formulas to Do Business in New York

At the recent Rochester meeting of the American Public Health Association, the following resolutions and preamble were adopted. The purpose was to show the public that the Association was standing up for the policies of the New York City Department of Health:

"WHEREAS, The widespread use of and traffic in patent medicines and secret nostrums constitute a grave menace to the public health, and

"WHEREAS, Such patent medicines and nostrums, because of the deceptive advertising regularly employed in promoting their sale, consistently oppose the influences seeking to educate the public to a better understanding of the nature, causes and proper treatment of disease, and

"WHEREAS, The bulwark of this traffic is secrecy and mystery,

"BE IT RESOLVED, That the American Public Health Association oppose the sale of patent medicines and nostrums whose constituents are unknown to the health authorities; and

"BE IT FURTHER RESOLVED, That this Association heartily endorse the ordinance of the New York City Department of Health, requiring the manufacturers of proprietary remedies, sold without a physician's prescription, to file with the department a statement of its active constituents and therapeutic claims, and

"BE IT FURTHER RESOLVED, That this Association recommend to other municipalities the adoption of this or similar measures for the proper safeguarding of the public health."

The New York Health Department reports that its ordinance on this subject, recently set to work, is meeting with general encouragement; that a number of the druggists of the city have notified the patent medicine manufacturers that their goods will not be sold unless they comply with the publicity ordinance.

STATEMENT OF OWNERSHIP, MANAGEMENT, ETC., REQUIRED BY THE ACT OF AUGUST 24, 1912

of THE MODERN HOSPITAL, published monthly at St. Louis, Mo., for October 1, 1915.

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(Signed) OTHO F. BALL,
President The Modern Hospital Publishing Company, Inc.

Sworn to and subscribed before me this twenty-first day of September, 1915.

(Seal) ANNA H. PFEIFER,
Notary Public.

My commission expires November 26, 1915.

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